AN ABSTRACT OF AN

Address

ON

INTESTINAL CANCER AND ITS TREATMENT.

Delivered before the Leamington Medical Society on March 22nd, 1897,

BY THE LATE J. GREIG SMITH, M.A. ABERD., F.R.S. EDIN.,

PROFESSOR OF SURGERY, UNIVERSITY COLLEGE, BRISTOL; SURGEON TO THE BRISTOL ROYAL INFIRMARY.

[AFTER some preliminary remarks the lecturer proceeded to demonstrate from specimens some points in the pathology of intestinal cancer which were of importance practically. These specimens, which were chiefly from cases operated upon by himself and which were mounted in transparent media between plates of glass and stained or otherwise treated, showed clearly by reflected and by transmitted light details in the tumour-structure and in the invasion of individual parts which are not visible under ordinary methods of mounting. The points to which the lecturer specially called attention were two: 1. The heaping up of fatty tissue all around ordinary cancer of the intestine. In the later stages of the disease when all the intestinal walls were destroyed the continuity of the canal depended often entirely on the presence of this fatty tissue. 2. The position of the glandular or acinous growth outside the fibrous or cicatrising elements; its instability; and, generally, its behaviour in the scheme of growth.]

1. The cicatrising element is the same in intestinal cancer as in epithelial cancer everywhere else. Starting from the centre of disease the contracting influence spreads out along the strands of fibrous tissue in all directions, pulling towards the tumour-centre all the tissues entangled in the fibrous meshes. The tissues, so drawn in and compressed, atrophy. In pure cicatrising cancer—"atrophic scirrhus" as it is called—invading the breast this is best shown. The fatty lobes all round the growth are dragged in and atrophy from the pressure, while the encircling strands of fibrous tissue increase in size and strength. Close to the tumour, all around it, there is an area of deeply pigmented fat, the cells being compressed or destroyed and the pigment with a little liquid only remaining. As the contraction goes on lobe after lobe is encircled and pulled in; the cells are destroyed and all that remains is a small globular cyst containing dark-brown liquid fat. The contracting influence is not confined to fat but invades muscle. Indrawing and atrophy of muscle is best seen in cancer of the tongue and at the angles of the mouth, but may be found where atrophic scirrhus is invading pectoral or intercostal muscles. It is always a marked feature in intestinal cancer and ultimately results in its complete disappearance. Here, however, the process is obscured by the indrawing of muscle hypertrophied from physiological over-action. [All these points were demonstrated in specimens passed round amongst the audience.] In the intestines this process of cicatrisation of fibrous tissue and its effects are well displayed.

First, there is indrawing of fatty tissue from the neighbourhood all round the bowel. Where the growth starts on the mesenteric aspect the piling up of fatty tissue may be so marked as almost to suggest the presence of a fatty tumour. If there is not much fat to be drawn in the appendices epiploicæ are huddled up together around the growth. In one case of cancer in the transverse colon nearly the whole of the omentum was drawn in. In every case this aggregation of fatty tissue round the growth-centre is found and sometimes to an extraordinary extent.

Secondly, there is constriction of the gut from indrawing of the submucous and subserous fibrous tissue. The musculature being in the grasp of the fibrous tissue outside and inside it and being contractile is pulled inwards and remains as an atrophied fibrous ring. It appears thickened and later, in certain circumstances, does become greatly thickened, but this thickening is apparent rather than real and arises from the fact that muscle forming a ring with a diameter of perhaps a quarter of an inch is thicker than the same muscle stretched out to form a ring with a diameter of two inches or more. One striking result of this constriction is that the mucosa, being mobile, is puckered up into vertical folds inside the contracted lumen everywhere except just over the growth, where it is hypertrophied and often diseased and always adherent. The compressed and folded mucosa soon breaks up and exposes the muscular coat.

Thirdly, there is shortening of the gut. This is, of course, to be expected from the universal distribution of the fibrous tissue affected. The bowel gathered in from above and from below towards the cicatrising centre is folded on itself, producing great ridges towards the mucous surface, between which lie pouches. These ridges and pouches are most marked on the proximal side of the growth, because coincidently with the contracting influence of the fibrous tissue there is going on dilatation of the whole tube as an effect of the obstruction to the passage of fæces.

2. The occurrence and the behaviour of the true acinous or glandular growth are the same in cancer of the intestines as in cancer of the breast or other tissue. It is nearly always secondary. It practically never appears in the centre of the scirrhoid or cicatricial tissue, but always at the periphery. It would seem as if in the centre of the grip of the contracting fibres no cell proliferation were possible; it occurs only outside it or at its free margin. Section after section of cancerous growths show this with a uniformity which is almost absolute. In the intestine this growth, of course, begins in the mucosa. In the grip of the stricture it breaks down almost at once and exposes the muscular coat. Above and below the stricture it grows readily enough and may attain to dimensions sufficient to be classed as a tumour. This is the well-known lip of growth which is found at one stage of all intestinal cancers on each side of the structure. Meanwhile the growth pierces the exposed musculature and burrows amongst the subperitoneal tissue, begetting secondary developments of acinous cancer. But these growths also soon break down towards the surface and the access of pyogenic organisms leads to suppuration and phagocytosis and the formation of granulations. As the new growth and the encircling fibrous and muscular tissues break down the calibre of the bowel enlarges, so that in an advanced case it may actually be greater than normal. Meanwhile, as destruction is going on inside fatty tissue is being drawn in from the tissues around and the intestinal walls are pulled from above and below close up to the tumour area. The condition then would be: at the centre of the disease a ring of fatty and fibrous tissue covered with granulations; above and below this and joined to it the divided and folded extremities of the bowel; and above and below all a lip of hypertrophic glandular growth. [All these points were demonstrated on specimens and illustrated by drawings.]

I say nothing about the histological structure of the growth. That it is cylindrical epithelioma is in keeping with the behaviour of epithelial cancer everywhere—namely, that it follows the tradition of the structure it originates in. All that I insist upon is that associated with the cancerous growth in the intestine proper there is always an indrawing and cicatrising of fibrous tissue at some period of the tumour-growth and that but for this action, which draws in fresh tissue to the cancerous area, perforation would in most cases take place earlier and more frequently than it does.

Clinically cancer of the bowel first signalises its presence as a stricture causing intestinal obstruction. This condition is often known as "ring cancer," a very suitable name. If it happens that obstruction is not produced its presence is not proved till some months later when it will have grown into a tumour and is discovered by palpation through the parietes. This tumour is hollow, and is composed of a conglomerated mass of cancerous, fatty, and inflammatory tissue holding together the more or less completely destroyed ends of the bowel. Obstruction is not associated with it, but cachexia and wasting nearly always are. It might therefore be regarded as fortunate for the patient when attention is early called to the presence of intestinal cancer by its producing obstruction, for then the growth can be completely removed. Later, with the presence of a tumour there is probably invasion of neighbouring tissues and systemic infection, and operation, even if primarily successful, is not likely to be radical.

Cancer originating in some structure outside the intestine and invading the bowel secondarily from its peritoneal surface is often mistaken for true intestinal cancer. It may

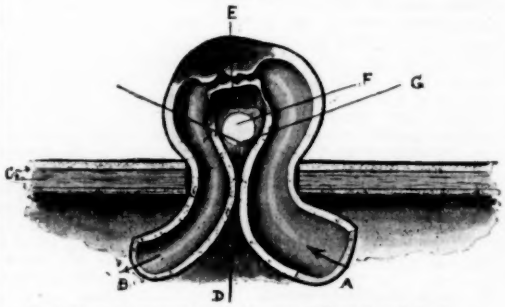
cause obstruction by pressure or by actual ingrowth, but the most common way in which it causes obstruction is by kinking of knuckles of intestine which become adherent to it.

In the treatment of intestinal cancer four surgical measures are available. 1. Removal of the growth—enterectomy or colectomy,—this being, of course, limited to suitable cases. 2. Formation of an artificial anus above the growth—colotomy, or "colostomy" as it is more properly named—may be done either to avoid death from obstruction or to prolong life and make it more comfortable. 3. Intestinal anastomosis—short-circuiting or the joining of healthy intestine above the tumour with healthy intestine below so as to exclude the tumour-growth. This operation should, I think, be limited to cases where there is obstruction and where the tumour is unremovable. It is, of course, unsuitable for cases of cancer in the rectum or low down in the sigmoid. It is useless if there is a large tumour, for obstruction rarely arises in these cases and perforation is equally rare, while the risks of perforation are practically the same whether cancerous fluids or fæces are extravasated. 4. Enterostomy, or the insertion of a small tube into the bowel in certain inoperable cases chiefly of peritoneal cancer associated with great distension from gas, is a measure of undoubted benefit. It is not intended to permit discharges of fæces, but simply to provide an exit for the great quantities of gas which are excreted in such cases and which cause much pain and general disturbance. In connexion with each of these operations I desire to make some critical suggestions which are the outcome of personal study and experience.

1. *Enterectomy.*—Ring cancer is, as already stated, usually discovered during operation for intestinal obstruction. Now, enterectomy for cancerous growth as part of the operation for obstruction is a very grave—according to some authorities an unjustifiable—operation. As usually performed, at one sitting, I admit that the operation is almost unjustifiable. Carried out in the way I recommend, in two stages, I have had 5 enterectomies all successful, and of 2 performed in other ways, 1 was successful and 1 fatal. In all these it is to be noted that the call to operate was from the obstruction and not from the new growth. Tumour-cancer, which is rarely associated with obstruction and is usually diagnosed by palpation through the parietes, may be removed by any of the numerous methods of enterectomy at the will of the surgeon, when and how he chooses. Now, the death-rate after operative removal of intestinal cancer in the absence of obstruction is over 25 per cent. of published cases; over all cases it is doubtless well over 40 per cent. This is a terrible mortality, higher, I hope and believe, than it need be. If with the methods in use this is the best that the best surgeons can do, then I am convinced that there is something wrong in the methods. Our methods of to-day are essentially the same as those in vogue a hundred years ago. Have we got into a wrong groove and been following it up too far? Is it not time to break new ground and to make new paths? The best results by the best surgeons—with bobbin, reel, button, plate or simple suture, whether applied end-to-end, or side-to-side or end-to-side—are all bad, terribly bad, and it is not easy to see how on these lines they can be improved. I am going to venture to suggest an abandonment of the old methods and to recommend an operation which I will now describe. I first performed it for ring cancer during obstruction six years ago, and I have performed it for the same disease during obstruction in four other cases. It is, I believe, certainly the best method of dealing with cancerous bowel during obstruction. For tumour-cancer I had meanwhile been doing my share of operations by the ordinary methods, with bone-bobbins, Murphy buttons, and suturing, and had had the ordinary share of success, no better and no worse than my neighbours. But my success has been less for operation without obstruction than for operation with obstruction; *a fortiori*, therefore, I have argued that the operation I adopted of necessity was better than the one I followed from choice. I have now come to the decision to adopt this method for all cases of enterectomy until something better is discovered. I stumbled on the method when operating on a lady patient of Mr. Eadon of Hambrook, who was desperately ill with intestinal obstruction. The obstruction was comparatively sudden in onset; vomiting had existed for a week and an operation was performed in ignorance of the exact cause. A cancerous stricture was found in the sigmoid flexure. This was brought outside; a wooden penholder was passed through its mesentery, after the method of Maydl, and permitted to rest on the parietes, and the intestine above was opened and drained. A week later the growth was cut away and an artificial anus was left over the pubes. This I closed by means of Abbe's catgut rings which I soon had to remove by another operation on account of a new intestinal obstruction which they caused. Then I had other cases, one after another doing well, and each in method showing some improvement on the one before. The trouble was the artificial anus which was left and how to close it without risk to the patient. Finally, I think I have got a method of doing this and now I venture to put before you the whole operation. It is, I admit, not so simple as other methods, but what of that if it gives more safety to the patient? This was the surprising and delightful element of the operation. After the acute trouble from the obstruction was over—a period lasting rarely more than twenty-four hours—there never was a moment's anxiety as to recovery. It was not so much the recovery as the manner of it which impressed one. The patient, so to speak, had the race well in hand and could have carried pounds more in the handicap and won; and therefore until I hear of something likely to surpass it I mean to practise this operation for the future.

The following are the steps of the operation. It is

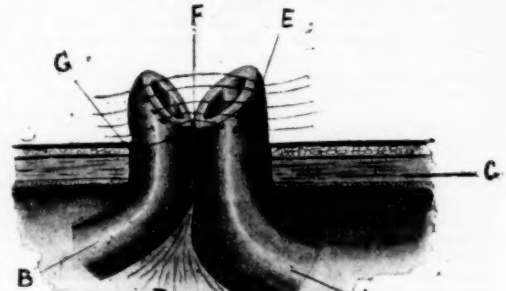
FIG. 1.



First stage of enterectomy; tumour delivered and fixed. A, Entering bowel. B, Returning bowel. C, Abdominal wall. D, Mesentery. E, Line passing through tumour and stricture. F, Skewer passing through mesentery and resting on parietes. G, Lines of excision.

performed in two stages, the first step resulting in fixation of the diseased bowel outside the abdomen in the parietal incision (Fig. 1), the second in resection of the growth and the necessary amount of bowel and in the suturing of the divided ends and returning them inside the parietal incision but not into the general abdominal cavity. (Fig. 2.)

FIG. 2.

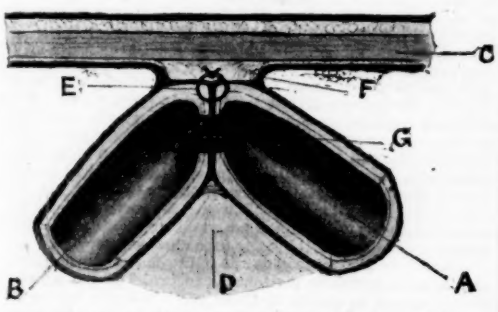


Second stage in enterectomy; tumour excised; suture of bowel begun. A, Entering bowel. B, Returning bowel. C, Abdominal wall. D, Mesentery. E, Lembert's sutures inserted. F, Adhesions between apposed bowels. G, Adhesions between bowel and parietes.

The delivery of the growth is usually quite easy; but sometimes the mesentery is much shortened and then, to get a sufficiency of bowel outside, it may be necessary

to divide the mesentery at its deep attachment. If what I have said as to invasion of mesentery by growth be true, then we ought to remove more of the mesentery than we usually do. Not a wedge-shaped piece but a fan-shaped piece should be removed, the handle of the fan being at the centre of intestinal disease. The mesentery should be divided between ligatures suitably placed by transfixion and all suspicious portions should be removed outside. Then through the mesentery and under the bowel should be placed one or more skewers or supporting rods. The skewer or skewers should pass through healthy mesentery because everything down to the skewer is to be removed. The incision may be made anywhere, over the disease always if possible. Sutures of any sort, either in the parietes themselves or between parietes and bowel, are quite unnecessary unless the incision has been made too long, and the gut should be placed on the raw parietal incision. If there is no obstruction the bowel, covered with silk protective or gutta-percha tissue, is left in the wound for 48 hours while adhesions are formed. These are always firm enough at the end of this time. If there is intestinal obstruction with distension, drainage of the bowel above the obstruction must be carried out This is done simply by making an incision in the bowel and inserting a rubber tube on the stretch into the opening and fixing the bowel to the tube by a purse-string suture or any similar simple device. At the end of a week more or less, according to circumstances, the bowel is resected down to the skewers and sutured on the spot by Lembert's method, or perhaps better by Halsted's. This is done outside the abdomen and as it causes no pain an anæsthetic is not necessary. But the bowel has to be returned inside the parietal incision; this requires an anæsthetic, for it means separation of the bowel from the parietes and also peeling of the parietal peritoneum from the muscle. This is a delicate process and one which I have not found it easy to describe, while I cannot say that it is easy to do. The secret is not to disturb the adhesion of the parietal peritoneum to the bowel while it is being separated from the muscle sufficiently to permit the knuckle of gut to be pushed inside. The sutured gut is freed from everything save its parietal peritoneum and is pushed inside with the peritoneum adherent. Then over it the parietes are pulled together and sutured in the ordinary way (Fig. 3).

FIG. 3.



Second stage in enterectomy concluded; suture completed; bowel returned. A, Entering bowel. B, Returning bowel. C, Abdominal wall. D, Mesentery. E, Suture placed in intestinal wall. F, Peritoneum adherent to bowel. G, Opening left at junction of divided ends of bowel.

This is the ideal method; but, as a matter of fact, enterorrhaphy, or the closure of the intestinal opening, may well be delayed for a month or longer. All the time the patient is gaining strength, the swollen bowel is being restored to its natural dimensions, and suturing is really easier. By the insertion of a piece of rubber tubing—the excellent suggestion of Mitchell Banks—the spur is removed and the gut is straightened, so that at the end of this time quite a small portion of the circumference requires suture. An anæsthetic is necessary for the operation because the incision above and below the anus must be extended and the areolar tissue uniting parietal peritoneum to muscle must be freely opened up. The operation is, in fact, the one for closure of an artificial anus which I have elsewhere described and figured and which is done shortly as follows. First, an incision is made through the parietes for a couple of inches above the anus. This goes down to the sub-peritoneal areolar tissue. The forefinger is inserted into this and is made to separate it freely from the parietes all round the adherent gut. The adhesions to the gut must be divided; they are usually very firm. Then the two ends of the gut with its adherent peritoneum are delivered through the wound and sutured carefully. Finally, it is returned and the parietes are sutured over it.

For the operation primary success can almost certainly be predicted. The charm of the proceeding is that there is practically no danger with it and no shock. If it fails there is no harm done and a very simple subsequent proceeding remedies the fault. A failure here is not death, only discomfort for a few days more. And there are few patients or surgeons who mind this if the risk is thereby greatly diminished. Such is the operation which I venture to recommend for the removal of intestinal cancer. There are, however, certain special conditions associated with removeable cancer of the bowel which may negative this operation. One of these is where the new growth forms the apex of an intussusception—not a very uncommon circumstance.

An operation which I have successfully performed in a case where the growth was not cancerous (already published) would probably suffice for cancerous cases. The operation was done rapidly on the spur of the moment in the case of an infirmary patient gravely ill from obstruction; but on thinking it over critically since I am inclined to recommend it as the best I could have done. When it was found that the intussusception could not be reduced and when it was clear that a tumour at the apex of the intussusception was the cause a vertical incision was made over the growth in the receiving bowel and the growth was delivered through this incision and excised. Transfixion sutures were placed through the divided ends of the bowel. When it appeared certain that the intussusception could now be reduced the vertical incision in the bowel was closed, cleansed, and returned into the abdomen, with the receiving bowel as it was peeled off the intussusception. The divided ends when they were drawn out were joined with a Murphy button, which was the quickest method available where speed was everything. The patient recovered, but not so easily as I could have wished, and I should like to believe that some less dangerous method were available. Mayo Robson has had a similar success with his bone bobbin in a case of epithelioma with intussusception. The operation also would not be a good one where the mesentery was extensively implicated, for extensive division of the mesentery involves gangrene of the bowel. Now, bowel which may become gangrenous is best removed at once. There is certainly a tendency for the muscularly powerful gut above the growth to draw it inside the abdomen, rocking it over the skewer. This can be obviated by the use of two skewers one above and one below the disease. But where even a little division of mesentery close to its attachment is made there is great risk of gangrene and the double skewer cannot prevent this. A yard of bowel may be dependent on an inch of mesentery at this attachment for vascular, nervous, and lymphatic supply, and this must not be forgotten in the resection of cancerous growths.

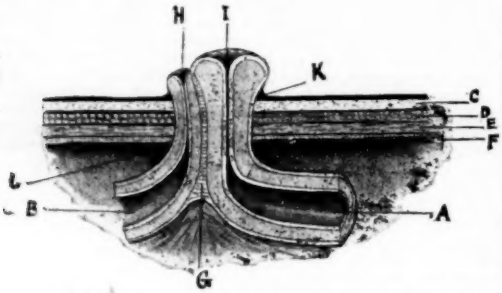
2. *Colostomy (as done now usually by abdominal section).*—The results of the ordinary operation of colostomy are often such that it is abhorred both by the surgeon and by the patient. Some of its frequent concomitants are certainly unpleasant. It leaks continually; fluid fæces and mucus are nearly always escaping from the anus and trickling over the skin. The intestine prolapses, often a little, sometimes a great deal, and anti-prolapse plugs and pads are invented and worn. Then the opening sometimes contracts and anti-stenosis plugs are inserted. Again the opening gapes and inflating rubber bags are pushed in and blown up. The ordinary colostomy is too often one continuous struggle against adverse influences, and not always a successful struggle. In the ideal colostomy there should be no leakage, no prolapse, no stenosis, and no gaping, and the opening should remain of one size, neither dilating nor contracting. Also, although this is a smaller matter, the anus should rise above the surface so that ejected fæces may be caught in a receptacle and not trickle over the skin. It need scarcely be added that all the fæces should be passed through the artificial opening and that none should pass into the lower bowel. This ideal result may, I think, be confidently expected if the operation is performed on the lines I now follow. It can always be got in the transverse colon; nearly always in the sigmoid colon; and in the majority of

cases in the descending and the ascending colon. The difficulties lie in excessive thickness from obesity of the abdominal wall or in great shortness of the mesentery preventing complete delivery of the bowel. I have found these difficulties present to the extent of being insuperable only twice in the last 20 operations I have performed in this way, and then simple modifications brought a fair measure of success.

In forming an artificial anus we ought to study the natural methods of effecting closure of the hollow viscera and follow them. To prevent leakage nature provides a canal lined by mucous membrane and surrounded by muscle. The best examples are the natural anus and the female urethra. A mere fistula, lined by granulations, however long, will always leak, even if surrounded by muscle. We know this too well in renal or biliary or intestinal fistulæ which dribble continuously till permanent closure takes place. The mucous lining then is one essential. Further, it should be surrounded by intact muscle. By the ordinary methods the muscle is divided and sutured closely to the bowel. This is all very well for a week or two, but divided muscle first retracts and then atrophies. Nothing can prevent this; there is no getting over it. Muscular fibres when divided atrophy away from the point of division and become fibrous for some distance away from it. Hence grip is impossible. This results in gaping of the opening. But there is contraction also: the ring of cicatricial tissue contracts if it is not continually dilated by prolapsing bowel, and thus we have as an artificial anus a mere hole in the abdominal wall surrounded by a ring of fibrous tissues and atrophied muscle. Finally, to make matters still worse, instability is given to the whole affair by bringing up the parietal peritoneum to the skin and suturing it there and to the bowel. In the operation which I am about to describe I seek to avoid all these drawbacks and now practically always succeed in doing so.

First, a complete mucous tube is provided, the whole calibre of the gut for at least a couple of inches being used. Secondly, it is surrounded by double crossing bands of intact muscular tissue; no muscular fibre is divided, the bowel is surrounded by what is practically a ring of muscle. Thirdly, the bowel is laid on the raw muscle over its whole thickness and is immoveably fixed there by the strongest adhesions. Lastly, there is no fibrous ring scar to either gape or contract. The following in detail are the steps of the method. The parietal incision, two or three inches in length, wherever made must enter the cavity without the division of any muscular fibre—the fibres are separated by the finger, not cut by the knife. If the ascending or descending colon is to be opened and the incision is made in either loin the skin incision is made along the course of the external oblique, the

FIG. 4.



Colio-colostomy; bowel carried through separated fibres of parietal muscles. A, Entering bowel. B, Returning bowel atrophied. C, Subcutaneous fatty layer of abdominal wall. D, External oblique muscle. E, Internal oblique muscle. F, Transversalis muscle, fascia, fat, and peritoneum. G, Intestinal adhesions and mesentery. H, Opening into lower bowel. I, Artificial anus: opening. J, Junction of parietal and intestinal peritoneum. K, Muco-cutaneous junction.

fibres of which are separated; then almost at right angles to these the fibres of the internal oblique are also separated, and the transversalis fibres being unimportant are obliquely divided. For the transverse colon the fibres of the rectus are separated after vertical division of the skin. Then a loop of bowel is pulled through the separated muscular bundles and fixed by a skewer passed under it through the mesentery and resting on the parietal skin, as already described for enterectomy. This is the whole operation. Sutures are superfluous; the muscle closely grips the gut, and if the incision is of the proper size, neither too large nor too small, the apposition is exact. The bowel cannot be drawn inwards; it is held over the skewer more firmly than by any stitches, nor can there be protrusion if the skewer is fixed and a graduated and firm dressing is placed around and held in position by strapping carried round the body. Now I nearly always open the bowel at the time of operation and put in a rubber tube; this permits exit of fluid fæces and gas. At the end of a week the bowel is divided transversely down to the skewer, or nearly so, and the operation is complete. In about a fortnight the bowel settles down to a permanent state, such as is shown in the diagram (Fig. 4). The bowel is firmly gripped by intact muscular fibres. It protrudes a little beyond the skin level and so serves to hold up a rubber ring to which is attached a rubber bag to catch the escaping fæces. The patient has by moving the body some power of relaxing and contracting the opening. Stenosis is impossible, as is dilatation. However firmly the muscle grips there is always this patent mucous canal, for mucous surfaces never adhere and dilatation is impossible, for entire and active muscle never wastes.

A colostomy done in the way I recommend is really little more trouble than a natural anus. It acts for about ten minutes or a quarter of an hour in the morning, the parts are cleaned, a little cotton-wool is placed in the bag, and the apparatus is fitted on, and the probability is that it requires no more attention during the day.

3. *Intestinal anastomosis.*—Of intestinal anastomosis, or short-circuiting, I shall say very little. It is employed, as you know, to cause union between healthy bowel above and healthy bowel below in unremoveable cancerous growth causing obstruction. In the disease we are considering it has, in my opinion, a very limited applicability. But in suitable cases it is an extremely valuable operation, far better than colostomy. As to the method to be followed I prefer the employment of immediate sutures to any mediate methods by plate or button or bobbin. All such openings tend to contract and there is no bobbin possible to be inserted which is large enough to give the requisite size of opening. I have described the methods elsewhere and shall not trouble you with them now.

4. *Enterostomy.*—The only other operation to be described is enterostomy for peritoneal cancer. This is the formation of a small opening in a suitable coil of gut above the growth and leaving in it a rubber tube which permits the exit of gas and fluid. This operation I performed first some years ago hoping thereby to make the latter end of a patient with extensive peritoneal cancer more comfortable. To my surprise the patient greatly improved in every way—put on flesh and regained a passage for fæces through the obstructed portion. He wore a tightly fitting small rubber tube in the intestine, the end of which lay in a bottle fitted to an abdominal belt. Great quantities of gas and a good deal of fluid passed through the tube; the fæces passed on. In two other cases similar results followed. A fourth patient now under treatment has so much improved that both her medical attendant and herself think the tube may be removed.

This is how I try to explain the improvement which follows simple enterostomy in peritoneal cancer. The gas which is always present in excess in these cases balloons up the gut and prevents it from contracting on the fæces so as to pass them on. The gut is powerless to propel; it simply compresses. When the gas is permitted to escape the gut grips the fæces and pushes them on with success. Whatever be the explanation I have little doubt as to the fact that provision for the external escape of gas in certain cases of peritoneal cancer, and perhaps other cases as well, is a surgical measure of real therapeutic value. The operation is so simple that it is scarcely worth describing. All that I would insist upon is that the rubber tube, about the size of a No. 4 English catheter, should be encircled by a tube of the intestinal mucosa and that this in turn should lie between intact bundles of muscular tissue.

WATER-SUPPLY OF CAMBORNE.—At the meeting of the Camborne District Council held on July 1st a letter was read from the Camborne Water Company stating that several improvements had been made by the company since the recent epidemic of typhoid fever.

A CASE OF ACROMEGALY.[1]

BY J. BREWARD NEAL, M.R.C.P. EDIN.,
MEDICAL SUPERINTENDENT, WANDSWORTH AND CLAPHAM INFIRMARY, S.W.;
AND
E. JACKSON SMYTH, M.D., B.S., B.SC. LOND.,
LATE ASSISTANT MEDICAL OFFICER, WANDSWORTH INFIRMARY.

With a Pathological Note

BY S. G. SHATTOCK, F.R.C.S. ENG.,
JOINT LECTURER ON PATHOLOGY, ETC., ST. THOMAS'S HOSPITAL; PATHOLOGICAL CURATOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE patient was a married woman, aged thirty-seven years, of temperate habits, and was admitted to the Wandsworth Infirmary on Oct. 21st, 1893. The following history was obtained from her husband. She had had two children and had previously suffered from chorea, hæmorrhoids, and vomiting of blood. Her present illness was stated to have commenced about fifteen years ago with an attack of hæmorrhage, probably from the stomach. Shortly afterwards her friends noticed her hands to be getting larger and she began to suffer from failing vision, some deformity of her chest also being observed at the same time. During the succeeding seven years her hands and feet increased in size so that she required a larger size in boots and gloves than formerly. At the end of this time she began to suffer from weakness and loss of flesh and a few years later her features were noticed to be undergoing change, the lips becoming larger, the nose more prominent, the eyes protruding, and the whole face becoming lengthened. She became gradually weaker and about a year before admission lost the power in her legs and was obliged to take to her bed. She suffered from incontinence of urine and fæces and occasionally complained of headache. Her appetite was excessive but her general health was becoming worse. Menstruation had ceased shortly after the onset of her illness.

On admission her condition was as follows. She was quite helpless, emaciated, and anæmic, the skin being soft and flabby, the subcutaneous fat almost absent, and the muscles wasted. The nails of the fingers showed a brownish discolouration with longitudinal striation. There was some hypertrophy of the hands and feet, and the bones of the face, especially of the lower jaw and nose, were markedly enlarged. The chin, lips, nose, and forehead were strikingly large, the lower lip when in a passive state hanging down and protruding in front of the upper, giving the patient a fatuous appearance. These points are shown in Fig. 1, which is from a photograph taken soon after admission, and which exhibits a very marked alteration of features when compared with a photograph of the patient fifteen or twenty years previously. The tongue also was considerably enlarged; there were marked proptosis, discolouration of the eyelids, external strabismus, nystagmus, and inequality of the pupils. Vision was completely lost and there was white atrophy of both optic discs. The reflexes were abolished but there was little or no loss of common sensation. There was also general muscular weakness. She exhibited some mental deficiency and her speech was slow and indistinct. She seldom spoke unless addressed, lying for the most part in a quiet apathetic state, and there was incontinence of urine and fæces. The body temperature was subnormal and the pulse was 66 and of small volume. The chest and spine were deformed, the sternum being pushed forward in its upper part, and a condition of kyphosis, most marked in the upper dorsal region of the column, was present. The heart sounds were distant and indistinct at the apex. The thyroid gland was not noticed to be enlarged. The clitoris was greatly hypertrophied. The urine was of low specific gravity but otherwise normal.

The patient was treated with thyroid extract soon after her admission, but after some weeks it was discontinued on account of diarrhœa and vomiting supervening. It was tried on several subsequent occasions for varying periods, but was stopped finally on account of recurrence of the same symptoms. No marked change in her condition was noted as a result of the treatment beyond some improvement in her mental condition up to a certain point. She improved also considerably in her general nutrition, being able during the last two years or so of her life to get up and sit in a chair during part of the day. Measurements taken about nine months before death showed that since admission the hands and feet had diminished slightly in size, while the facial measurements showed an increase over those noted on her admission. As regards her other signs and symptoms she showed little or no change, and except for obstinate constipation there was no particular indication for active treatment. She continued in the same sleepy mental condition, though answering questions rationally when addressed. She suffered from occasional headache but had a good appetite and was able to take a nourishing and free diet. The termination of the case was somewhat sudden, the patient being seized with an attack of diarrhœa and vomiting, which was followed by a rise of temperature, rapid pulse and respiration, with signs of commencing pneumonia. She became rapidly exhausted and died about two days after the commencement of acute symptoms, on June 21st, 1897.

FIG. 1

From a photograph of the patient in 1894.

Necropsy.—The post-mortem examination was performed two days later, when rigor mortis had passed off. The body appeared to be fairly nourished, though there was general muscular wasting and a flabby condition of the subcutaneous tissues everywhere. The enlargement of bones appeared most marked in the head and face, especially affecting the malar prominences and lower jaw; there was general hypertrophy of the features also, as described above, especially of the nose, ears, and lips. The angle formed by the manubrium with the body of the sternum was very prominent, causing a general projection of the front of the chest and some flattening on either side. There was also marked kyphotic curvature of the spine as mentioned above. The hands were flabby and spade-like, but did not appear to be notably enlarged, and on removing one of the metacarpal bones this appearance was confirmed,

[1] The notes of the case were read at a meeting of the Pathological Society of London on Nov. 2nd, 1897.

as there was no evident hypertrophy of the bone. The knee-joints were enlarged and thickened, being fixed in a position of slight flexion, the bones being apparently affected by outgrowths of an osteo-arthritic nature. Both feet appeared to be unduly large, prominent, and flattened on the plantar aspect and there was great enlargement of the metacarpo-phalangeal joints of both great toes. The subcutaneous fat was everywhere fairly abundant, especially in the scalp, and the muscles in all parts were pale and flabby. The vertex of the skull presented some irregular prominences in several situations, especially in the right posterior parietal region, the bone in this area being uneven and perforated by small apertures. There was also considerable thickening in the frontal and occipital regions, the sawn surface measuring three-quarters of an inch in places. The cerebral membranes appeared to be normal. On removal of the brain a large tumour was found on the under surface occupying the central portion of the middle fossa of the base of the skull, completely filling the pituitary fossa and extending on each side of this to some extent (see Fig. 2). It was smooth on the surface and

FIG. 2.

View of the base of the skull showing enlarged pituitary body *in situ*.

covered with what appeared to be a prolongation from the pia mater, except on the right side over a small area where this had been torn away. The tumour was roughly divided into two lobes, right and left, the former being slightly the larger, and it measured 3 in. transversely by 2½ in. in the antero-posterior direction. The optic tracts were stretched over the tumour and were much flattened. The pituitary fossa of the sphenoid was enlarged and the anterior clinoid processes were widely separated. The brain itself weighed 44½ oz. and showed a marked concavity on the under surface corresponding to the position of the tumour, and the parts forming the floor of the third and adjoining portions of the lateral ventricles were greatly thinned. Except for this condition there was no other noticeable appearance and the substance of the brain seemed normal. The spinal cord was removed for part of its extent only; no abnormal appearances were seen by the naked eye except a few small bony and calcareous spicules on the inner surface of the dura mater. The thyroid gland was considerably enlarged, weighing 6½ oz. The right lobe was slightly larger than the left, but otherwise the increase in size was uniform. The thymus gland was not seen. The lungs were congested at their bases and posterior parts and there was some early pneumonic consolidation of both lower lobes. The heart was enlarged, weighing 18½ oz. The mitral valve was thickened and showed calcareous deposits and there were old vegetations present on one of the cusps. The tricuspid valve was also somewhat thickened. The liver weighed 72 oz., but beyond general enlargement nothing abnormal was noticed. The spleen was also enlarged, weighing 18 oz. The kidneys were of normal size and no morbid changes were observed on section. The stomach appeared to be healthy except for some congestion of the mucous membrane. The intestines contained an accumulation of fæces in the lower part, but no other abnormal conditions were noticed.

Report by Mr. SHATTOCK. — The thyroid gland was uniformly enlarged but to no very notable degree. To the unaided eye the cut surface presented the structure of an ordinary parenchymatous goitre and the microscopic characters corresponded; the gland spaces, which were of abnormal size, were lined with a single layer of cubical epithelium and enclosed homogeneous colloid. There was no trace of parietal infolding into the spaces as in the thyroid enlargement associated with Graves's disease. Sections of the pituitary body revealed a remarkably uniform structure of polyhedral cells somewhat large in size and without visible intervening substance. There was scarcely a trace of connective tissue stroma, the cells closely filling the meshes of a capillary network and resting directly on the capillary wall. In general characters the cells resembled those of the anterior lobe of the pituitary body. The changes may therefore be classed under the head of hypertrophy, as the enlarged body was everywhere encapsuled and the surrounding bone uninvolved. The metacarpal and metatarsal bones examined showed no enlargement.

THE TREATMENT OF TUBERCULOSIS BY TUBERCULIN R.

BY NATHAN RAW, M.D. DURH., F.R.C.S. EDIN.,
MEDICAL SUPERINTENDENT, MILL-ROAD INFIRMARY, LIVERPOOL;
AND
JOHN HILL ABRAM, M.D., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN, ROYAL INFIRMARY; ASSISTANT LECTURER ON PATHOLOGY, UNIVERSITY COLLEGE, LIVERPOOL.

IN the *Deutsche Medicinische Wochenschrift*, No. 14, 1897, Professor Koch brought forward his latest work on tuberculin preparations. He makes therein a number of interesting and important observations and the following portion of our paper in inverted commas is a brief summary of his paper.

"Immunity may be either poison immunity or organism immunity and the ideal immunity will include both. Man apparently shows no immunity to tubercle, yet in miliary tuberculosis in man and experimental tuberculosis in guinea-pigs there is a stage in which the bacilli become scanty and difficult to find: here we have an organism immunity which is as a rule too late to be of service." "The one feature in common of the two conditions is a rich quantity of bacilli." "Based upon this glycerine extract of tubercle bacilli was used in treatment and Koch claims that experience has shown that the fear of the dissemination of tubercle bacilli is unfounded, and this agrees with his own experience in men (1000 cases)." "From the therapeutic point of view the glycerin extract gives poison immunity but not organism immunity." "The new preparation, tuberculin R., is obtained by pounding up young virulent cultures of tubercle bacilli in a mortar, treating with distilled water, and centrifugalising. The deposit is dried, again powdered, distilled water added, and again centrifugalised, and the process repeated until the culture is converted into a series of clear fluids. The first fluid obtained differs markedly from the remainder and is rejected; the remaining fluids constitute the new preparation, tuberculin R." "Koch states that tuberculin R. produces marked organism

TABLE OF A SERIES OF CASES OF TUBERCULOSIS TREATED BY TUBERCULIN R.

Case.	Sex and age.	General and local condition.	Treatment.	Condition after treatment terminated.	Weight.	Later history.	Remarks.
1	F., aged 30.	Nutrition poor; anæmia. Temperature normal; weight 98 lb. Sputum copious; tubercle bacilli present. Consolidation left apex.	April 20th, 1897: $\frac{1}{250}$ mg. Dec. 23rd, 1897: 20 mg.	Sputum scanty; no bacilli. Physical signs disappeared.	+ 12 lb.	Feb. 18th, 1898: in good health.	After 2·6 mg. temperature was 101·4° F. After 4·5 mg. temperature was 100·2°.
2	M., aged 37.	Very anæmic; nutrition fair. Temperature, highest, 99° F.; weight 130 lb. Sputum copious. Tubercle bacilli abundant. Consolidation of right apex; some softening.	Feb. 8th, 1898: $\frac{1}{250}$ mg. T.R. April 2nd, 1898: 5 mg. T.R.	Temperature normal; cough and sweats still present. Physical signs unchanged.	- 2 lb.	June 30th, 1898: *in statu quo*; says he feels better.	Treatment stopped as general reaction occurred without increase of dose.
3	M., aged 37. Marked heredity.	Well-nourished; temperature 99° F.; weight 135 lb. Sputum scanty; fair number of tubercle bacilli. Left apex consolidation; occasional "clicking."	Feb. 1st, 1898: $\frac{1}{250}$ mg. May 8th, 1898: 10 mg.	Temperature normal: no cough. Physical signs entirely cleared up.	+ 17 lb.	June 30th, 1898: working and in good health.	After 3 mg. temperature was 102°; marked excitement; after 4 mg., ditto.
4	M., aged 21. Marked heredity.	Fair nutrition; temperature 100° F.; weight 122 lb. Sputum copious; many tubercle bacilli. Consolidation of left apex; softening; no cavity; some dissemination.	Feb. 1st, 1898: $\frac{1}{250}$ mg. May 9th, 1898: 6 mg.	No improvement.	- 2 lb.	Improved under ordinary treatment.	After 1 mg. temperature was 101°, slight collapse. After 4 mg. temperature was 104°, marked collapse.
5	F., aged 22. Marked heredity.	Fair nutrition; temperature 99° F.; weight 105 lb. Sputum scanty; bacilli present. Consolidation of right apex; crepitations.	Feb. 20th, 1898: $\frac{1}{250}$ mg. May 8th, 1898: 6 mg.	Physical signs gone; cough gone.	+ 7 lb.	June 30th, 1898: in good health.	After 2 mg. temperature 105°; serious collapse.
6	M., aged 42.	Nutrition poor; temperature 101° F.; weight 115 lb. Sputum copious; bacilli numerous. Right apex consolidated; softening; thickened pleura.	March 1st, 1898: $\frac{1}{250}$ mg. May 8th, 1898: 4 mg.	Physical signs increased; temperature hectic.	- 8 lb.	June 30th, 1898: steadily getting worse.	Red corpuscles broke down; anæmia became more marked.
7	M., aged 40. Marked heredity.	Nutrition poor; temperature 101° F.; weight 109 lb.; sputum copious; bacilli present. Both apices consolidated; cavity left apex.	Never stood injections well.		- 3 lb.	June 30th, 1898: *in statu quo*.	—
8	M., aged 26.	Nutrition poor; temperature 101° F.; weight 97 lb. Sputum copious; bacilli present; both apices solid; softening.	March 18th, 1898: $\frac{1}{250}$ mg. 2 mg.	Sputum more abundant; temperature hectic.	- 1 lb.	June 30th, 1898: *in statu quo*.	After 1 mg. temperature was 102°.
9	F., aged 16. Marked heredity.	Nutrition poor; temperature normal; weight 84 lb. Sputum abundant; bacilli present. Right side apical consolidation; thickened pleura.	Feb. 25th, 1898: $\frac{1}{250}$ mg. May 8th, 1898: $\frac{1}{2}$ mg.	Temperature hectic; physical signs unchanged.	- 2 lb.	May 30th, 1898: wasting.	Treatment stopped as condition was becoming worse.
10	F., aged 19. Marked heredity.	Nutrition good; temperature normal; weight 150 lb. Sputum scanty; bacilli present. Left apex consolidation; early softening.	Feb. 20th, 1898: $\frac{1}{250}$ mg. April 10th, 1898: 5 mg.	Chest cleared up; no cough.	+ 10 lb.	May 30th, 1898: still in good health.	No reaction throughout.
11	F., aged 27. Marked heredity.	Nutrition fair; temperature 101° F.; weight 120 lb. Sputum scanty; bacilli present. Consolidation of both apices.	Feb. 20th, 1898: $\frac{1}{250}$ mg. April 12th, 1898: 4 mg.	*In statu quo*.	- 4 lb.	Left at own request.	—
12	F., aged 18.	Extensive unilateral lupus of face; five years' history. Weight 103 lb.; temperature normal.	Feb. 25th, 1898: $\frac{1}{250}$ mg. May 8th, 1898: 5 mg.	Soundly healed.	+ 11 lb.	May 30th, 1898: no recrudescence.	No reaction; marked local redness and scaling.
13	F., aged 16.	Lupus exedens of 12 years' duration; destruction of nose. Weight 53 lb.; temperature normal.	Feb. 11th, 1898: $\frac{1}{250}$ mg. May 7th, 1898: 1 mg.	Soundly healed.	+ 7 lb.	May 30th, 1898: no recrudescence.	No reaction; local reaction as in Case 12.
14	F., aged 14. Marked phthisical heredity.	Tuberculosis of iris; no pulmonary lesion. Temperature normal; weight 67 lb.	March 13th, 1898: $\frac{1}{250}$ mg. May 8th, 1898: $\frac{1}{2}$ mg.	Conjunctivitis and iritis.	+ 12 lb.	Left hospital; general condition much improved.	After $\frac{1}{2}$ mg. marked local reaction.
15	F., aged 30. Marked heredity.	Nutrition fair; temperature 99° F.; weight 59½ lb. Bacilli present. Left apex consolidation; thickened pleura.	Feb. 1st, 1898: $\frac{1}{250}$ mg. May 8th, 1898: 8 mg.	Physical signs the same; cough less; sputum absent; bacilli still present.	+ 6 lb.	Still in hospital, improved.	Treatment stopped on account of pleuropneumonia.
16	M., aged 44.	Nutrition poor; weight 100 lb.; temperature 100° F. Bacilli present; consolidation at both apices.	Feb. 11th, 1898: $\frac{1}{250}$ mg. April 20th, 1898: 6 mg.	Reactions constant; physical signs improved.	+ 5 lb.	No real improvement; cough still severe; bacilli present.	*In statu quo*.

Of the above 16 cases 15 were treated in Mill-road Infirmary.

immunity and when its action is complete the injection of the old tuberculin causes no reaction." "The fluid is preserved by the addition of glycerine (20 per cent.) and 1 c.c. is equivalent to 10 mg. of solid substance." "The syringe used must not be sterilised with carbolic acid and the necessary dilutions are to be made with normal saline solution." "Dosage.—It is best to begin with $\frac{1}{100}$ mg. of the solid substance; injections may be given every second day, the dose being slowly increased, but so slowly that a rise of temperature of more than 0·5° C. is never seen. Should any rise occur it must subside before a further dose is given. The final dose, as a rule, is 20 mg. and when this is reached without reaction then further injections are not given or only given at long intervals."

Omitting the experiments on animals we have the following statement: "In man immunity is present *only* when doses of 0·5 to 1 milligramme are reached, and consequently *tuberculin R. is not available for treatment when the patient's prospect of life is only a few months.*" "*In cases of mixed infection the remedy is of little use, and Koch states that cases with higher temperature than 38° C. (100·4° F.) are only exceptionally suitable.*" (The italics are ours.)

In pulmonary tuberculosis the effect of the injections is given as follows: "No general reaction occurs, simply a little increase in the adventitious sounds, the sputum soon diminishes in amount, and the tubercle bacilli disappear, the physical signs improve, weight is gained from the beginning, and the temperature regains the normal level."

It is difficult—nay, almost impossible—to obtain in hospital practice a series of cases of tuberculosis exactly conforming to the requirements of Koch for treatment by tuberculin R. Patients with symptoms least distant from the very early stages of tuberculosis were treated, and in some cases where the disease was more advanced an amelioration of symptoms was all that was hoped for. In 4 cases not included in the table with high temperatures the result of mixed infection the symptoms were in no way improved; in fact, in some they were aggravated, so that the treatment was not continued.

Results.—In 13 cases of phthisis pulmonalis subjected to no other treatment but injections of tuberculin and ordinary diet 4 were completely cured—viz., Nos. 1, 3, 5, and 10. They have all gained in weight, the physical signs noted on admission have disappeared, the tubercle bacilli are absent, and the patients have left the hospital, and at the time of writing they are quite well. In Case 2 the treatment was stopped as the disease steadily progressed and weight was lost. In Case 4 severe reactions followed the injection of 4 mg. on three occasions, and as weight was lost the treatment was given up. In Cases 6 and 7 reactions followed the smaller doses and as weight was steadily lost the treatment was abandoned. In Case 9 the whole of the right pleura was thickened, the patient became hectic and she lost weight. In Case 11, no alteration for better or worse occurring, the treatment was abandoned when immunity doses had been reached. In Case 8, which was hardly a suitable case, reactions were early and severe and the treatment was abandoned on reaching 1 mg. In 7 cases the blood corpuscles were counted whilst the treatment was being carried out. In 2 the number of red cells were increased, in 5 diminished; in 4 cases the white cells were increased and in 3 diminished.

The lupus cases were undoubtedly benefited, all being chronic intractable cases which had resisted all ordinary measures. They have all healed soundly and at the time of writing have not broken down. The patient with tuberculosis of the iris was of great interest as the lesion was in a very vascular part and was open to observation. The specific action of the tuberculin was manifest from the earliest dose and it is regrettable that from the extent of the local reaction the treatment had to be abandoned.

General conclusions.—From a very careful observation of the effects of tuberculin R. given alone in doses as prescribed by Koch and not accompanied by any other treatment on cases of phthisis pulmonalis we are able to announce four cases of complete recovery out of thirteen cases treated. These four cases were the most favourable for treatment, as the disease was localised and the temperatures were not such as to suggest mixed infection. We feel that this result is little if any better than that of ordinary treatment combined with nourishing diet and good hygienic surroundings. In the lupus cases, on the other hand, we feel we have a powerful and useful means of treatment. In cases of phthisis it is evident that even with great care in the regulation of the dosage reactions do occur and the general collapse which followed 1 mg. in Case 5 was most alarming. It is possible that the explanation of this is due to the fact that the solutions of tuberculin R. are not of uniform strength throughout.

Liverpool.

THE TREATMENT OF FIBROMYOMA OF THE UTERUS.

BY J. INGLIS PARSONS, M.D. DURH., M.R.C.P. LOND.,
PHYSICIAN TO THE CHELSEA HOSPITAL FOR WOMEN.

PERHAPS there is no disease so varied in its manifestations as fibromyoma of the uterus. In one case a tumour is accidentally discovered, which causes no symptoms whatever; in another the patient presents every appearance of having malignant disease and is totally incapacitated for work. Of all the different symptoms which we have to combat hæmorrhage and pain are the most prominent. The former, beginning with a slight menorrhagia and gradually increasing for one or two years until in some cases it attains to a continued metrorrhagia completely exhausting the patient, is very characteristic of this disease. This can hardly be said of the pains, although with these again there is a great difference between the slight discomfort experienced by some and the severe distress complained of by others. Intermittent in character they vary with the size and position of the tumours and the pressure exercised on the nerves and structures within the pelvis and abdomen. The most common of all resembles a labour pain in a minor degree. Produced by the contractions of the uterus it may be regarded as a natural effort of this organ to rid itself of an unwelcome visitor. But it is none the less wearing to the patient and requires the earnest attention of the physician. Besides hæmorrhage and pains we find a variety of other symptoms which are more serious and are produced by the pressure of the tumours on important viscera—viz., irritable bladder and retention of urine, difficulty in defecation from pressure on the rectum, œdema of the lower extremities from pressure on the iliac veins, and loss of power in the legs from pressure on the sacral plexus. The ureters appear able to adapt themselves and nearly always escape. Hydronephrosis from the pressure of a fibroma is rare. Pelvic peritonitis is not uncommon with an effusion of lymph fixing the tumour and obscuring its shape. The uterus itself is always enlarged more or less, sometimes to an enormous size. Certain changes take place in the endometrium. There is generally glandular endometritis present, which may lead to the formation of an adenomatous polypus. In addition to this, whenever a tumour or a portion of it is submucous there is an interstitial as well as glandular endometritis with thick-walled vessels and a greatly dilated capillary network. It is this vascular condition of the endometrium or a polypus which causes the hæmorrhage.

The diagnosis is usually very easy, but occasionally very difficult. The typical case is a single woman between thirty and forty years of age or a married woman who is sterile or has not had children for many years, complaining of increasing menorrhagia and occasional pains in the abdomen. On examination an enlarged hard nodular uterus is easily felt. The diagnosis is then certain. But when there is a large, soft, elastic and semi-fluctuating mass, with the uterus pushed out of position, a difficulty will arise. Perhaps it is impossible to pass the sound and there may be no history of menorrhagia. Even in these cases a correct diagnosis may often be arrived at although the physical signs are nearly the same for a multilocular ovarian tumour. An examination under an anæsthetic should always be done in doubtful cases. If the tumour is ovarian the growth is generally more rapid. The history may show that it started on one side of the pelvis. The uterus is separate instead of forming part of the swelling and not as a rule enlarged. Menorrhagia is not a prominent symptom and the tumour is smoother than most myomata. Just as there are great differences in the size, symptoms and gravity of fibromyoma so also is there great variety in the treatment to be adopted. Each case must be considered on its individual merits. Many cases require no treatment whatever. In the early stages when the only symptom is a

slight increase in menstruation medicine should be given a fair trial. Of the various drugs used the most valuable in my experience is ergot and the preparation of it which I prefer is the fresh British Pharmacopœia liquid extract given in drachm doses two or three times a day in chloroform water after food. Hydrastis canadensis in my experience is very inferior to ergot, but is worth trying when ergot fails. Nux vomica and quinine are also of some value. Bromide of potassium and Viburnum prunifolium help to restrain the loss and ease the pains. The subcutaneous injection of ergotin I have quite discarded because other measures not more painful, but more efficacious, can be adopted.

After the publication of Dr. Jouin's paper on the Influence of Thyroid Extract on Fibromyoma I gave the drug a fair trial in five cases. Four of these were women of about the age of forty years with old hard fibromata of many years' standing. No appreciable diminution in size followed after a three months' course, but in the fifth case sent to me by Mr. Hildyard Rogers in 1896 there was a distinct reduction in size. The patient, a single woman, aged twenty-five years, had a large hard nodular fibromyoma almost filling the pelvis and dipping down into Douglas's pouch. The cervix was drawn up and pressed against the pubes. She suffered from morning sickness and attacks of retention which had to be relieved with a catheter. These symptoms disappeared after a three months' course of thyroid extract. The tumour distinctly diminished in size. Mr. Hildyard Rogers, in answer to my inquiries, wrote in January, 1898: "I certainly think the tumour has diminished in size and in any case it certainly has not increased and she has been quite free from the troubles which she had before and is in fairly good health." The value of saline aperients in relieving the congestion of the pelvic vessels is not appreciated as much as it should be. A full dose of Rubinat, Hunyadi, or Friedrichshall taken every other day before breakfast so as to produce a watery evacuation gives considerable relief. When, however, the menorrhagia persists and increases in spite of medicines other measures must be considered. If the uterine canal is fairly patent a simple and temporarily efficacious proceeding is to swab it with a probe covered with cotton-wool dipped in liquor ferri perchloridi fortior. I have never seen any harm result from doing this, while the hæmorrhage is always stopped for a time. It very often happens that the probe cannot be passed up without squeezing most of the solution out at the external os. Under these circumstances dilatation becomes necessary and a better result will then follow from the use of the curette. The removal of the diseased endometrium already described produces an abatement of symptoms which will last for some months, but neither in my own practice nor in the practice of others have I ever seen a permanent result follow. The menorrhagia returns and we must either curette again or adopt some other treatment which will produce a more permanent result. When dilatation has been done we may find a small fibroid polypus in the uterine cavity which is the chief cause of the hæmorrhage. This is easily removed with the serre-nœud. But if the tumour is at all large or is sessile or has a very thick pedicle considerable difficulty may be encountered. Very often it is necessary to split the cervix on each side and remove the tumour piecemeal. Unless there is a distinct pedicle it is better to temporise than to attempt enucleation. The fibroma is generally firmly embedded and held by adhesions. The amount of force necessary to drag it out may even cause inversion or rupture the wall of the uterus. There is always profuse hæmorrhage. By waiting and giving ergot or with the help of electricity the tumour will become more extruded and can then be removed with much less risk at a later date. There will always remain a large proportion of cases in which the above measures produce no permanent result. We can then fall back on electricity. About 80 per cent. of all cases can be treated with great benefit, without appreciable risk and without mutilation of the sexual organs and without having to lay up.

It has been urged against electricity that the tumour is not got rid of. If we once admit that some cases having no symptoms require no treatment, this argument falls to the ground because it admits that the presence of the tumour does not matter. The female pelvis, being adapted by nature to contain an enlarged pregnant uterus without interference with the general health, very well tolerates an enlargement from other causes. Although Apostoli's method is now well established it may not be out of place to describe a few severe cases treated by this method. Hæmorrhage can always be stopped if an electrode can be passed. A patient under the care of the late Dr. Edis and one of the first whom I treated came to see me last year. In 1887 she was obliged to take to her bed from continued hæmorrhage in spite of ergotin injections and previous curetting. After thirty applications the loss was reduced to normal. She came to see me in 1897, ten years after the treatment was applied. There has never been any return of the hæmorrhage. In 1895 the menopause ensued and the tumour is now of about half the size and only reaches to the level of the pubes instead of to the umbilicus.

In my last list of cases[1] I described one case where a permanent cessation of hæmorrhage had not followed. This patient came to me subsequently in 1895 and told me that the metrorrhagia had gradually left off; she has since been quite regular. In July, 1894, Sir Francis Laking asked me to see a patient, aged thirty-nine years, with profuse hæmorrhage commencing eighteen months previously. The uterus was enlarged and two small fibromata could be felt in the fundus. She was unable to leave her bed and was so ill and anæmic that her appearance suggested malignant disease. After seven applications the hæmorrhage was stopped. Eighteen applications in all were given and full doses of iron to combat the anæmia. I heard from Dr. Vernon-Jones, who took charge of her with me during the treatment, that she is now (after four years) in excellent health and has had no return of the hæmorrhage. In July, 1896, Dr. Braxton Hicks sent a woman, aged thirty-six years, to me for profuse hæmorrhage. The tumours reached to the umbilicus and also involved the cervix uteri. There were œdema of the ankle and great weakness from the hæmorrhage so that she had to be taken to a nursing home. After five applications the loss was much reduced and she was able to leave the home. Twenty-one applications were given altogether and the loss has been quite regular and normal in quantity since. This patient wrote from the country as follows: "January, 1898: I am very well and wish I could call just to show you the thoroughly satisfactory result of your treatment. It has been a very jolly autumn; life seems such a different thing when one feels perfectly well and strong."

Of all the cases I have treated for hæmorrhage since the publication of my last paper only one has had any return after the treatment. This was a woman, aged thirty years, who came to me in April, 1896, a patient under the care of Dr. R. H. Barkwell. There were two small tumours—one in the fundus and one in the anterior wall. After nineteen applications the loss was reduced to normal, but it began to increase again in a few months. Seven more applications were given, beginning in February, 1897. After a lapse of five months the treatment was then interrupted again for six months on account of a varicose ulcer which laid her up. Now (February, 1898), after twelve more applications, the loss is again normal and I have hopes will remain so. In addition to the arrest of the hæmorrhage by electricity pressure symptoms can also be abolished or relieved in suitable cases. An instance of this was a patient under the care of Mr. Allt of Clapham. She was a single woman, aged thirty-nine years, with a very large tumour reaching up to the ribs. She suffered from severe pains in the abdomen and left leg, with œdema of the ankles, varicose veins and slight menorrhagia. The sound passed 8½ in. She was unable to do any work and had become a chronic invalid. The treatment was commenced in 1897 and after fifteen applications all her symptoms had gone. I saw her in January, 1898; she is now able to work well, all the pains have disappeared, there is no œdema of the ankles, menstruation is quite regular and the loss is normal in quantity. On examination the tumour was reduced by 2 in. in length and very materially in girth. She was delighted with herself and told me that Mr. Allt was also very pleased.

Another patient, a woman aged thirty-five years, had suffered for eighteen months from bladder irritation and repeated attacks of retention of urine and severe pains in the abdomen. The uterus was hard and nodular, reaching half way to the umbilicus. She was admitted into the hospital on Feb. 13th, 1897. After sixteen applications her symptoms had all gone. During my absence from influenza in January, 1898, Dr. Berkeley, physician to out-patients, saw her at the

[1] THE LANCET, Feb. 27th, 1892.

hospital and found her very well and without any return of the bladder trouble.

In suitable cases with electricity hæmorrhage can be stopped, the pressure symptoms and pain can be got rid of and the tumour reduced in size and this without the patient having to run any appreciable risk or suffer any mutilation of her sexual organs. Some cases are unsuitable—viz.: (1) fibrocystic tumours growing rapidly in young subjects; (2) old hard tumours composed chiefly of fibrous tissue; (3) associated disease of the tubes and ovaries; and (4) very large tumours. With these cases the question of abdominal section must be faced when there are severe or urgent symptoms. I must say that with the help of electricity and other treatment already described I do not often find this necessary.

There are four procedures which can be adopted, according to the case before us—myomectomy, enucleation, castration, and hysterectomy. Myomectomy is only feasible with subperitoneal tumours which have become more or less extruded from the uterine tissue and present some approach to if not a well-defined pedicle. Such cases are uncommon and when they do occur may produce no symptoms. In nearly every case the tumour is embedded in the uterine walls and can only be got out by enucleation if we wish to save the sexual organs. This operation has been chiefly supported by Schröder, but is to a great extent discarded on account of its high mortality, higher even than hysterectomy. The cavity from which the tumour has been dug out very often cannot be properly closed up. There is consequently great difficulty in restraining hæmorrhage, while the accumulation of discharges within the cavity is likely to cause peritonitis. Among practical men the choice in almost every case requiring abdominal section lies between removal of the ovaries and hysterectomy. It is unfortunate that the tumour can rarely be removed without mutilation of the sexual organs. Castration is not always feasible nor are the results always successful. Menstruation may continue and severe hæmorrhage, necessitating further treatment. The risk of the operation in suitable cases is not great. The chief point in operating is not to leave a scrap of ovarian tissue behind and to take the tubes away as well. When it is not possible to remove the ovaries hysterectomy must be done. According to Pozzi the mortality of the leading operators based on over 600 published cases is 21·6 per cent. for the extra-peritoneal operation and 25·7 per cent. for the subperitoneal operation. Since the publication of these statistics the latter operation has been much improved and probably has a lower mortality than the former.

We must, however, bear in mind that hysterectomy still has a higher mortality than any other operation in gynæcology, while it is performed for a disease which if left alone is very rarely fatal and which will in all probability cure itself in middle age. In addition to this it cannot be done without mutilation of the sexual organs. The opinion of one of the greatest surgeons of the century and the most successful in this operation, Thomas Keith, is worth quoting—viz.: "I often ask myself the question, Does a mortality of 8 per cent. justify an operation for a disease that as a rule has only a limited active life, that torments simply, and that only for a time, though of itself it rarely kills? The mortality of an ordinary uterine fibroid if left alone is nothing approaching a death-rate of 8 per cent. I doubt even if the mortality of the extreme cases exceed this. And, after all, the great difficulty is not in doing even the worst of these operations, but in knowing what are the cases in which it is right to advise those who trust themselves to us to run the risk of a dangerous operation with all its attendant miseries. Could we get the mortality down to 5 per cent. in the bad cases—and these only are the fit subjects—then one might advise interference with a more easy mind." These words of wisdom sum up the subject perfectly. I have very often found that the public confused ovariotomy with hysterectomy. In all cases it should be explained that an ovarian cyst is invariably fatal if left, while the operation is not very dangerous, and the sexual organs with one ovary left will continue their functions, whereas a fibromyoma is very rarely fatal if left, while the operation is much more dangerous than ovariotomy, and for a certainty means a mutilation of the sexual organs. If after these facts are made perfectly clear to the patient and she still wishes to undergo hysterectomy when other treatment has failed to relieve her then I think we are justified in performing the operation.

Queen-street, Mayfair, W.

PIPERIDINE AS A URIC ACID SOLVENT: A COMPARATIVE STUDY.

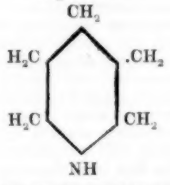
BY F. W. TUNNICLIFFE, M.D., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE NORTH LONDON HOSPITAL FOR CONSUMPTION;
AND
OTTO ROSENHEIM, PH.D., F.C.S.

WE have elsewhere[1] drawn attention to the solubility in water of piperidine urate and to the molecular constitution of this salt.[2] In the first of these papers we stated that experiments were in progress with the object of ascertaining whether this remarkable property of piperidine could be utilised in medicine. This subject must obviously be studied from two points of view—namely, (1) chemical and pharmacological; and (2) clinical. As we have now completed the first part of this research we consider it better to give shortly our results although the second part of the investigation is not at present complete. For the sake of clearness we propose to consider this subject under the following headings: I. Chemistry. II. Conditions which must be fulfilled by any drug to justify its therapeutic use in the uric acid diathesis, including under this head gout. (*A*) Proof of the non-poisonous nature of the drug in doses equivalent to those in which it would have hypothetically to be administered; (*B*) the demonstration of the drug as such in the urine; (*C*) the property of dissolving (*a*) uric acid (on the distal side of the excreting membrane of the kidney), (*b*) urinary sediment,[3] and (*c*) sodium biurate in the blood. Under (*C*) we shall compare the power of piperidine to that of other known uric acid solvents.

I.—CHEMISTRY.

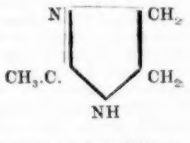
Under this heading it is interesting to note that the structural formulæ of the various uric acid solvents show a certain resemblance. Our research in this connexion has been confined to the following substances, of which we subjoin the structural formulæ:—

Piperidine.



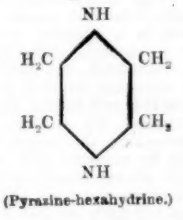
(Pyridine-hexahydrine.)

Lysidine.



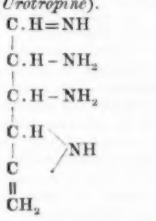
(Methyl-glyoxalidine.)

Piperazine.



(Pyrazine-hexahydrine.)

Hexamethylene Tetramin[4] *(Urotropine).*



This relationship is more apparent in the case of the first three bodies than in that of the fourth. Each, however, of the substances possesses one or more NH (imine) groups

[1] Brit. Med. Jour., Feb. 27th, 1897.
[2] Centralblatt für Physiologie, Band iii., p. 434.
[3] With regard to the chemical nature of the urinary sediment we have not been able to convince ourselves of the existence of the so-called quadriurates. A further discussion here would be beside our purpose.
[4] This formula is the one recently advanced by Georg Cohn (Journal für Praktische Chemie (2), lvi., p. 345, 1897) and seems to accord better with all the known chemical reactions of this substance than the earlier formulæ.

and further one or more CH_2 groups.[5] The first three are to be regarded as ring compounds; this in the case of the last one is doubtful. The first three may further be regarded as completely (piperidine and piperazine) or partially (lysidine) reduced bases. All four possess basic properties of varying strength. The uric acid solvent power seems to be dependent upon the presence of the NH group, but does not seem directly proportional to the number of these groups. For instance, as we shall subsequently see, piperidine (one NH group) has an incomparably greater solvent power than piperazine (two NH groups), whereas lysidine (also containing one NH group) likewise as a solvent greatly exceeds piperazine (two NH groups) but in certain instances falls short of piperidine. With regard to the constitution of the salts formed by the action of these bases upon uric acid we have more especially studied the piperidine urate. It is formed by the interaction of piperidine and uric acid in molecular proportions in aqueous solution, from which it is precipitated by alcohol and ether as a white crystalline powder. By re-crystallisation from a small volume of water it may be obtained in the shape of well-defined colourless cubes. It is characterised by its solubility in water, which amounts at blood temperature to 9·1 per cent. For further chemical details readers are referred to earlier papers of the authors.[6]

The constitution of lysidine urate is given by Professor Ladenburg[7] as being $C_6H_{14}N_2$ ($C_5H_4N_4O_3$); that of piperazine urate by Majert and Schmidt[8] as being $C_4N_2H_{10}$ ($C_5H_4N_4O_3$). In the case of urotropine the compound or compounds formed seem to be of a more complicated nature and do not seem as far as we are aware to have been specially studied.[9] Under the circumstances we consider it of interest to briefly describe our own observations in this connexion. If hexamethylene-tetramine be allowed to act upon uric acid in the presence of water a clear solution is obtained at boiling temperature which forms into a transparent gelatinous mass upon cooling. When the compound formed is precipitated from the solution by alcohol and ether or by acetone it forms an opaque gelatinous mass. In both cases filtration is very difficult. When dried at blood temperature or in vacuo it forms a white amorphous powder, which on being dissolved in hot water and subsequently submitted to cooling is precipitated again in the form of a gelatinous mass. When a solution of this substance is evaporated on a water bath formic aldehyde is set free, thus indicating the partial decomposition of the urate. From the above experiments the obvious inference is that hexamethylene-tetramine urate belongs to the class of substances known as colloids. But it was found on submitting the substance to dialysis that it, unlike colloids, dialysed freely and could be re-obtained from the dialysate in a gelatinous form. This colloid-like form of urotopine urate is of interest in connexion with the experiments of Dr. Ord[10] on colloid urates. The dialysability of these latter and their significance with regard to the natural excretion of urates in birds and serpents have already been pointed out by Sir William Roberts.[11]

II.—CONDITIONS WHICH MUST BE FULFILLED BY ANY DRUG TO JUSTIFY ITS THERAPEUTIC USE IN THE URIC ACID DIATHESIS, INCLUDING UNDER THIS HEAD GOUT.

A. Proof of the non-poisonous nature of the drug in doses equivalent to those which would hypothetically be required.—The physiological action of piperidine on the lower animals has been studied by Fliess,[12] A. Heine,[13] A. Gürber,[14] Öchsner de Coninck and Pinet,[15] R. Thielmann,[16] Cushny,[17] Tunnicliffe,[18] and B. Moore and R. Row.[19] These observations, although of extreme interest from a pharmacological standpoint, are not germane to the subject of this paper. As far as we are aware no observations have been recorded with regard to the action of this substance on man. One of us published some results obtained with the guaiacolate of piperidine in phthisis.[20] These patients took as much as 25 grains three times a day, corresponding to 20 grains of piperidine per diem, without any unpleasant effects ensuing. We have also taken ourselves a quantity of the tartrate of piperidine corresponding to 1 gramme (= 15 grains) of piperidine for eight consecutive days without experiencing any symptom. Patients under our care have also taken quantities of the tartrate or carbamate corresponding to from 1 to 1½ grammes (from 15 to 22 grains) of piperidine per diem without any effect. In one case the drug was pushed in order to see what would be the nature of the symptoms corresponding to an overdose. The patient in question took upon an empty stomach at 10 P.M. 15 grains (1 gramme) of the carbamate of piperidine—i.e., 0·7 gramme of piperidine—and repeated this dose at 6 A.M. in the morning also on an empty stomach. About one hour later he experienced a feeling of nausea accompanied by gastric distension. This did not, however, culminate in vomiting. No nervous symptoms of any kind occurred and no diarrhœa. The symptoms soon began to abate and four hours after the second dose had entirely disappeared. This result in man entirely confirms the unpublished results of one of us upon the lower animals, which show that the salts of piperidine in relatively large doses acted as a central emetic, stimulating the vomiting centre in the medulla.[21]

Hypodermic injections in man of carbamate and hydrochlorate of piperidine in quantities corresponding to from 0·1 to 0·3 gramme of piperidine produced no general symptoms whatever, but gave rise to slight local irritation. When, however, the injections were intra-muscular this did not take place. In the early physiological experiments which we made with piperidine we used the hydrochlorate. Subsequently Dr. Schidrowitz drew our attention to, and prepared in a pure form, the salt, which is formed by the action of carbonic acid on piperidine and which is to be regarded as the carbamate. This forms a very serviceable salt and possesses many advantages, of which the relatively high piperidine percentage is perhaps the chief. It occurred, however, to us, in conjunction with Dr. Schidrowitz, that a combination of the diuretic and antacid action of tartaric acid, in combination with the uric acid solvent power of piperidine, would be a distinct desideratum. We therefore prepared the acid tartrate of piperidine, which can be obtained in well-developed crystals. This salt is easily soluble and has a pleasant taste and can be given in doses of 10 grains or more from three to four times a day after meals. The average quantity of uric acid excreted per diem in man is 0·8 g.[22] The theoretical amount to convert this into a soluble form—namely, piperidine urate—is 0·4 gramme piperidine. From experiments which will be detailed later it will be seen that piperidine keeps in solution in urine a little over its own weight of uric acid. Since 1½ grammes of piperidine may be taken per diem without any unpleasant effect ensuing and only about half of this amount is necessary to keep the average diurnal quantity of uric acid in solution, there seems to be a sufficient margin allowed for the quantitative relation between the ingestion and excretion of the drug.

B. The demonstration of the drug as such in the urine.—One of the spheres of action of a uric acid solvent lies on

[5] It is interesting to note that a similar action is exerted also by several alkaloids which contain reduced pyridin = or pyrrolidine – rings—i.e., an NH group in connexion with several CH_2 groups. As examples we may give nicotine, coniine, atropine, &c. For a complete and up-to-date account of the chemistry of these alkaloids see A. Pictet, Constitution des Alcaloids, 1897. That atropine very probably contains a pyrrolidine ring has only been recently shown by R. Willstätter, Berichte der Deutschen Chemischen Gesellschaft, Band xxx., p. 2679.

[6] Centralblatt für Physiologie, Band iii., p. 434. Brit. Med. Jour., Feb. 5th, 1898.

[7] Berichte der Deutschen Chemischen Gesellschaft, Band xxvii., p. 2953.

[8] Ibid., Band xxiii., p. 3718.

[9] The compounds formed by the action of formic aldehyde upon uric acid have been described by Tollens, Weber and Pott (Berichte der Deutschen Chemischen Gesellschaft, Band xxx., p. 2514), and the suggestion made that urotropine acts in a similar way to formic aldehyde. The exact proof of this seems wanting. Recent views with regard to the constitution of urotropine would seem to argue against this hypothesis.

[10] Dr. Ord: On the Influence of Colloids upon Crystalline Form, &c. London, 1879.

[11] Croonian Lectures, 1892, p. 90.

[12] Dubois' Archiv, 1882, p. 111.

[13] Virchow's Archiv, Band cxxii., 1891, Heft 1.

[14] Archiv für Anatomie und Physiologie, 1890.

[15] Comptes Rendus de la Société de Biologie, 1885, p. 613, and 1886, pp. 217, 461.

[16] Dissertation, Marburg, 1896.

[17] Journal of Experimental Medicine, vol. i., p. 202.

[18] Brit. Med. Jour., Jan. 16th, 1896; Centralblatt für Physiologie, Band xi., Heft 25; Journal of the Chemical Society, 1898, p. 145.

[19] Journal of Physiology, vol. xxii., p. 273.

[20] Brit. Med. Jour., Jan. 16th, 1896.

[21] It may be of interest here to note that the emetic action of nicotine, well known to juvenile smokers, is also due to stimulation of the vomiting centre in the medulla and not to a local action on the stomach. Coniine in equivalent quantities has no central emetic action.

[22] Schulze: Pflüger's Archiv, Band xlv., p. 427. Salkowski: Virchow's Archiv, Band cxvii., p. 572.

the distal side of the kidneys. By the distal side of the kidneys we mean the urine from the point where it leaves the secreting membrane of the kidney to its final evacuation. If any drug, whatever may be its solvent power upon uric acid in the test tube, does not leave the kidneys as such we are not justified in ascribing to it a uric acid solvent power in the urine. The importance of this has been recognised by all workers in this field of research. After a dose by the mouth of piperazine, lysidine, and urotropine the presence of these substances has been demonstrated in the urine.[23] In the case of piperidine we were able to demonstrate the presence of this substance in the urine one hour after a dose of 0·7 gramme (10 grains) of the tartrate. We were also able to demonstrate its presence 4½ hours after this dose. The whole of this amount seemed to be eliminated before the expiration of 48 hours, as at the end of this time we were no longer able to find it in the urine. The method which we used was based upon the property of this substance to form a characteristic well-crystallised compound with potassium-bismuth-iodine solution.[24] 100 c.c. of the urine were made alkaline with potassium hydrate and distilled. From 40 to 50 c.c. of the distillate were acidified with hydrochloric acid and evaporated to dryness on the water-bath. The white residue of the hydrochlorates was extracted with a few c.c. of absolute alcohol in which the hydrochlorate of piperidine is easily soluble. To the warm concentrated alcoholic extract a few drops of potassium-bismuth-iodine solution were added. Upon cooling the piperidine compound crystallised out and could be easily identified under the microscope by the characteristic form of the crystals. By slow crystallisation large, thin, transparent yellow hexagonal plates were obtained, which were occasionally superposed. When the crystallisation was allowed to take place more rapidly smaller crystals of the same kind were obtained. These results were controlled in two ways. First by the fact that normal urine treated as described above with bismuth-potassium-iodine solution gave no such crystals. Secondly, by the fact that urine to which piperidine had been added in the proportion of 0·1 per cent. showed under similar treatment crystals identical with those which were obtained from the urine after the administration of the piperidine by the mouth. We are not at present able to state the exact quantitative relation which exists between the amount of piperidine ingested and the amount excreted. We are, however, in connexion with our clinical researches, directing our attention to this subject.

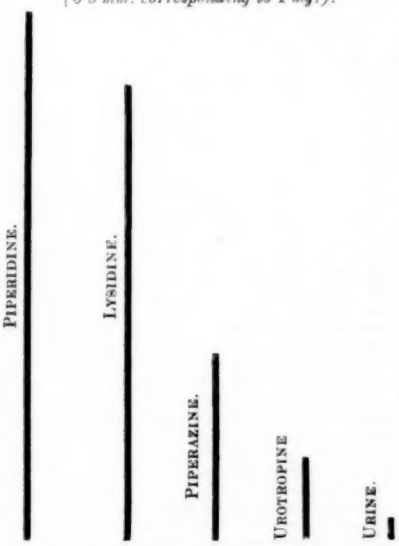
C. The property of the drug of dissolving (a) uric acid on the distal side of the excreting membrane of the kidney.—In order to test this point a set of experiments was made in which the amount of uric acid was estimated which was kept in solution by a certain amount of the drug in a certain quantity of urine. In each case the dissolving mixture consisted of 100 c.c. of mixed normal human urine, 0·5 gramme of pure uric acid[25] and 0·2 gramme of the solvent. The mixtures were placed in an incubator for six hours at blood temperature and frequently shaken. After that time the undissolved uric acid was filtered off and the uric acid estimated in the filtrate by our own method.[26] Three simultaneous experiments were made in each case and the average was taken. The drugs used were: piperidine, lysidine, piperazine, and urotropine. A set of control experiments was made simultaneously. The solvent mixture in this case consisted of a 100 c.c. of the mixed urine and 0·5 gramme of uric acid. The mixed urine used for these experiments had the following properties: specific gravity (15° C.), 1·0204; acidity,[27] 2·7; mineral matter, 1·4 per cent.; and uric acid, 0·0636 per cent. The results of these experiments are best shown by the following table.

TABLE I.—*Showing the Influence of 0·2 per cent. of certain Bases on the Solvent Power of Urine for Uric Acid.*

Quantity of urine.	Quantity of solvent.	Solvent used.	Quantity of added uric acid.	Quantity of uric acid kept in solution.	Original quantity of uric acid in the urine.	Quantity of uric acid kept in solution over and above that originally present.	Solvent power in terms of	
							Urine.	Urotropine.
100 c.c.	0·2 g.	Piperidine.	0·5 g.	0·2273 g.	0·0636 g	0·1637 g.	38·1	6·5
,,	,,	Lysidine.	,,	0·2065 g.	,,	0·1429 g.	33·2	5·7
,,	,,	Piperazine.	,,	0·1216 g.	,,	0·0580 g.	13·5	2·3
,,	,,	Urotropine.	,,	0·0886 g.	,,	0·0250 g.	5·8	1·0
,,	—	—	,,	0·0679 g.	,,	0·0043 g	1·0	—

Quantities of solids expressed in grammes.

Graphic Representation of the Results expressed in Table I. (0·5 mm. corresponding to 1 mg.).



The property of the drug of dissolving (b) urinary sediment.—As urinary sediments consist of a mixture of uric acid and urates in varying proportions it is obvious that the results obtained above with pure uric acid are not strictly applicable to urinary sediment as it exists in man. We therefore next directed our attention to this point and proceeded as follows. A large quantity of urine possessing deposits of uric acid and urates was collected from different patients in St. Bartholomew's Hospital. Ten litres of urine were so collected and kept preserved by the addition of a few drops of chloroform or a crystal of thymol.[28] Eight litres were filtered and the deposit was rinsed into the remaining two litres by means of the same urine. The resulting liquid was well shaken and had the following characteristics: specific gravity (at 15° C.), 1·0146; acidity, 1·96; mineral matter, 0·68 per cent.; total uric acid, 0·1267 per cent.; and uric acid in solution, 0·0326 per cent. Five sets of experiments were made with this urine artificially saturated with natural sediments, each set consisting of three experiments. The solvent mixture consisted in each case of 0·1 gramme of the respective drug and 100 c.c. of the urine. One set of experiments were controls consisting of the urine alone. In order to ensure an even dissemination of the sediment the

[23] Piperazine: Berichte der Deutschen Chemischen Gesellschaft, Band xxiv., p. 3237. Brit. Med. Jour., June 16th, 1894. Lysidine: Berichte der Deutschen Chemischen Gesellschaft, Band xxviii., p. 3068 Urotropine: Deutsche Medicinische Wochenschrift, Band xxi., p. 541.

[24] Cf. Kraut: Liebig's Annalen, Band ccx., p. 310, where also the quantitative composition of the reagent is given, which was found to be more sensitive for this purpose than Drachendorf's reagent (vide also Berichte der Deutschen Chemischen Gesellschaft, Band xxix., p. 2065).

[25] For the preparation of uric acid the pure commercial product was further purified by Bensch's method (Liebig's Annalen, Band liv., pp. 190–193) through the potassium salt or in some cases through the piperidine salt.

[26] Loc. cit. In cases where the quantity of uric acid to be determined is very small we found it advantageous to use a $\frac{1}{10}$ normal piperidine solution, 1 c.c. of which corresponds to 0·00336 gramme of uric acid. When using so sensitive a solution the error produced by the slightly acid reaction of filter paper or distilled water must be taken in regard. This error was estimated once for all for a certain size of filter paper and the amount of water used by means of comparative experiments. The amount required for the correction was 0·12 c.c. of a $\frac{1}{10}$ normal piperidine solution. For the estimations a normal pipette was used, which allowed the reading 0·01 c.c.

[27] The acidity in this paper is always expressed as the number of c.c. of $\frac{1}{10}$ normal KOH solution required to neutralise 10 c.c. of the urine, using phenolphtalein as an indicator.

[28] Our first idea was to use formic aldehyde for this purpose, as it possesses very great disinfecting powers in minute quantities. It has, however, a marked solvent action on uric acid and in order to eliminate this source of error we used chloroform or thymol.

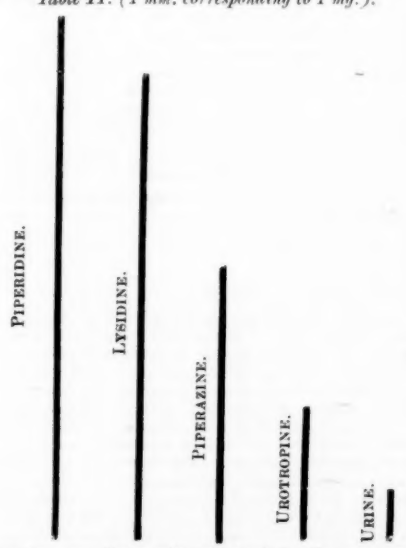
stock of urine was kept constantly stirred while the necessary quantities were measured out by a pipette. The solvent mixtures were kept in the incubator for 2½ hours at blood temperature and were then left to stand in a cool place for 24 hours. After that time they were filtered and the uric acid kept in solution was estimated as before.

TABLE II.—*Showing the Influence of 1 per cent. of certain Bases on the Solvent Power of Urine for Urinary Sediments.*

Quantity of urine.	Quantity of solvent.	Solvent used.	Quantity of uric acid kept in solution.	Original quantity of uric acid kept in solution by urine.	Quantity of uric acid kept in solution over and above that originally present.	Solvent power in terms of Urine.	Solvent power in terms of Urotropine.
100 c.c.	0·1 g.	Piperidine.	0·1113 g.	0·0326 g.	0·0787 g.	10·8	3·6
,,	,,	Lysidine.	0·1047 g.	,,	0·0721 g.	9·9	3·2
,,	,,	Piperazine.	0·0741 g.	,,	0·0415 g.	5·7	1·8
,,	,,	Urotropine.	0·0547 g.	,,	0·0221 g.	3·0	1·0
,,	—	—	0·0399 g.	,,	0·0073 g.	1·0	—

Quantities of solids expressed in grammes.

Graphic Representation of the Results expressed in Table II. (1 mm. corresponding to 1 mg.).



If we compare the results obtained in the case of pure uric acid added to urine with those in which natural urinary sediment was used we shall see that the quantity dissolved by piperidine and lysidine in the latter case is exactly the same as in the former, taking in consideration the fact that in the former case double the quantity of solvent was used. In both cases the solvent power exerted by piperidine and lysidine is greatly in excess of that exerted by piperazine and urotropine. The only difference between the two sets of results is that in the case of urinary sediments the solvent powers of the urine, piperazine, and urotropine were relatively to piperidine and lysidine greater than in the case of uric acid. The results are further of interest in that they show that the solvent power of piperidine and lysidine is directly proportional to the amounts used even in relatively dilute solutions. Since the urinary sediment consisted of uric acid and urates it appears from these experiments that piperidine and lysidine exert a solvent power upon such a mixture in the presence of urine equivalent to that which they exert upon pure uric acid. In the case of piperazine and urotropine this action seems greater in the case of the mixture than in that of pure uric acid.

The property of the drug of dissolving (c) sodium biurate in the blood.—For the purpose of studying this question we prepared according to Sir William Roberts's directions a so-called standard solvent which contains in 100 c.c. distilled water 0·5 gramme sodium chloride and 0·2 gramme sodium bicarbonate. According to Sir William Roberts this solvent behaves towards sodium biurate exactly the same as blood serum.[29] The solvent power of the standard solvent upon sodium biurate was estimated by Sir William Roberts and is given as probably 1 in 10,000. No details are, however, described of the experiments which led to this conclusion. From experiments made by Dr. Luff[30] it appears, however, that sodium biurate is soluble in unaltered serum to the extent of 1 part in 20,000 (0·05 gramme in 1000). From this it is obvious that there is a very considerable difference between the solubility of sodium biurate in standard solvent as calculated by Sir William Roberts and its solubility in serum as ascertained by Dr. Luff. This discrepancy made us consider it worth while to test the solvent power of both these media upon sodium biurate before studying the effect of the addition of small quantities of certain bases in this direction. We shall first direct our attention to the standard solvent.

The solubility of sodium biurate in standard solvent.[31]—In determining the solubility in standard solvent of so relatively insoluble a salt as sodium biurate it is obvious, temperature being constant (38° C.), that two factors of considerable importance are time and volume. With regard to time the longer the exposure the more dissolved up to a certain limit. With regard to volume the relation is not so simple and depends upon the extent to which by means of agitation fresh layers of the solvent can be brought into contact with the substance to be dissolved. As we convinced ourselves by preliminary qualitative experiments that the solubility of sodium biurate in standard solvent is very small indeed we, in accordance with ordinary physical method, took relatively large quantities (500 c.c.) of the solvent.[32] Five separate sets of experiments were made. The first consisted in taking 4 flasks containing 500 c.c. of standard solvent each, adding to each 0·1 gramme of pure sodium biurate and keeping in the incubator at blood temperature under frequent agitation for twenty hours. The contents of each flask was then filtered in the incubator through three thicknesses of filter paper. The uric acid was estimated in the measured filtrates by evaporating them down on a water bath, precipitating and titrating by the ordinary method. The second series of experiments were made at another time and with a standard solvent taken from a different stock and were two in number. In these experiments the final titration of the uric acid was made against a $\frac{1}{10}$ normal piperidine solution (instead of $\frac{1}{70}$ normal), the other conditions being exactly the same as described above. In the third set the time of exposure was five hours, the final titration was made against a $\frac{1}{10}$ normal piperidine solution, the other conditions remaining the same. In the fourth set the time of exposure was twenty hours, the volume of standard solvent 100 c.c., the other conditions remaining the same. Four experiments were made simultaneously, which were repeated at another time and with a standard solvent from a different stock with exactly the same result.

TABLE III.—*Showing the Solubility of Sodium Biurate in Standard Solvent.*

Number of set.	Quantity of standard solvent.	Time of exposure.	Uric acid kept in solution.	Calculated as sodium biurate.	Solubility.
				Per 1000 c.c.	
1	500 c.c.	20 hours.	0·0038 g.	} 0·0086 g.	1 in 116,000
2	500 c.c.	20 hours.	0·0038 g.		
3	500 c.c.	5 hours.	0·0030 g.	0·0068 g.	1 in 146,000
4	100 c.c.	20 hours.	0·0071 g.	} 0·0769 g.	1 in 13,000
5	100 c.c.	20 hours.	0·0066 g.		

Quantities of solids expressed in grammes.

[29] Croonian Lectures, 1892, pp. 73-83.

[30] Brit. Med. Jour., April 10th, 1897, p. 905.

[31] In order to make our results comparable to those of Sir William Roberts we prepared the sodium biurate according to his directions. Croonian Lecture, 1892, p. 73.

[32] When smaller quantities of the solvent were taken and the amount dissolved expressed in terms of the amount of solvent required to dissolve unity of the salt a much higher solubility was obtained. This explains itself, if we remember that in making any uric acid estimation an experimental error of 1 mg. or more might easily occur, which, taking, for instance, a solubility of 1 in 100,000 and as quantity of solvent used 25 c.c. is multiplied 4000 times when calculating on the unit.

According to the above observations the solubility of sodium biurate for 20 hours varies from 1 in 13,000 to 1 in 116,000 according to the quantity of the standard solvent. In, however, estimating the influence of drugs upon the solubility of sodium biurate in standard solvent we shall take as our standard the solubility of sodium biurate as found when working with the same volume and for the same time as in the experiments in order to make the results with drugs comparable *inter se*.

Influence of certain bases on the solubility of sodium biurate in standard solvent.—Sir William Roberts states that piperazine has no influence whatever on the solvent power of serum (and, *sic*, of standard solvent) on sodium biurate.[33] We may say at once that this does not correspond with our own observations. As will be seen below we find that it does exert an influence in the direction of increasing the solvent power of standard solvent and serum for sodium biurate. In this instance Sir William Roberts attempted to precipitate the sodium biurate dissolved with hydrochloric acid and got no result. It thus appears that he was unable to precipitate by means of hydrochloric acid both the sodium biurate taken up by standard solvent alone (which according to him amounts to 1 in 10,000) and also that taken up by standard solvent plus piperazine. From these experiments he came to the conclusion that piperazine had no influence "whatever" in increasing the solvent power of standard solvent for sodium biurate. The method of precipitation used by Sir William Roberts for his quantitative estimation is, however, inadequate.[34] Smale[35] has recently shown that sodium chloride in the proportion of 0·2 per cent. and upwards exerts a powerful inhibitory influence on the precipitation of uric acid by means of hydrochloric acid. As standard solvent and blood serum both contain about 0·7 per cent. sodium salts, which are by the addition of hydrochloric acid converted into chlorides, it is evident that by hydrochloric acid a complete precipitation of the uric acid in these media is not to be expected. No such objection holds for the precipitation by ammonium chloride.[36] Our comparative results with regard to the influence of the bases in question are best shown by the following table. Five experiments were done with each base and the average of the numbers (which were nearly all identical) was taken.

TABLE IV.—*Showing the Influence of 0·1 per cent. of certain Bases on the Solvent Power of Standard Solvent for Sodium Biurate.*

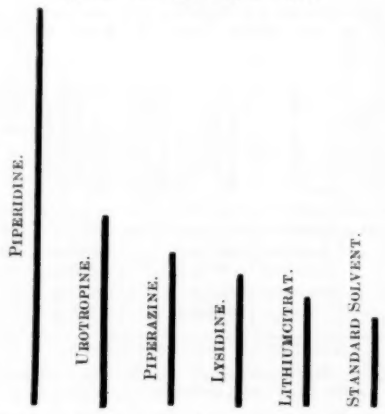
Quantity of standard solvent.	Quantity of solvent.	Solvent used.	Quantity of sodium biurate dissolved.	Solubility (in round numbers).	Solubility in terms of standard solvent.
100 c.c.	0·1 g.	Piperidine.	0·0306 g.	1 in 3300	4·0
,,	,,	Urotropine.	0·0149 g.	1 in 6700	1·9
,,	,,	Piperazine.	0·0117 g.	1 in 8600	1·5
,,	,,	Lysidine.	0·0102 g.	1 in 9800	1·3
,,	,,	Lithiumcitrat.	0·0082 g.	1 in 12200	1·1
,,	—	—	0·0077 g.	1 in 13000	1·0

Quantities of solids expressed in grammes.

Having considered the solubility of sodium biurate in standard solvent under different conditions we will now proceed to give our results in regard to blood serum.

Solubility of sodium biurate in blood serum.—For the purpose of our experiments we used bullock's serum, of which we obtained from different animals a total quantity of 2½ litres. This quantity formed our common stock, and all the experiments described below were made with it. After filtration through a Berkefeld filter under pressure[37] it was a perfectly transparent pinkish yellow fluid and had the following characteristics: specific gravity (at 15°C.), 1·0269; inorganic substances, 0·84 per cent.; chlorine, 0·30 per cent.; and alkalinity (expressed as NaOH),[38] 0·26 per cent. As will be seen from the table given below (compiled from Bunge's "Physiological Chemistry") the composition of the serum used very nearly approximated the average. The

Graphic Representation of the Results expressed in Table IV. (2 mm. corresponding to 1 mg.).



slight difference between it and human serum justifies us in concluding that the results which we obtained with this serum are applicable to human serum.

TABLE V.—*Showing the Composition of Serum.*

—	Pig.	Bullock.	Man.
	Per cent.	Per cent.	Per cent.
Inorganic substances	0·77	0·79	0·85
Chlorine	0·36	0·37	0·35
Specific gravity	—	—	1·0292

Before applying the method which we described above for the estimation of uric acid in the various fluids we dealt with to blood serum we thought it wise to study the effects of the necessary manipulations on normal serum. An additional reason for making these control experiments consists in the possibility of the serum originally containing some uric acid. From the results of previous workers in this field[39] there seems little doubt that uric acid is normally present in blood but in very minute quantities. As will be seen from our result below we have succeeded in making a quantitative estimation of the uric acid normally present in bullock's serum. For this purpose we took 100 c.c. of the serum and saturated it with ammonium chloride. After filtration and washing with saturated ammonium chloride solution the residue on the filter was well rinsed with hot distilled water into a small glass basin. A slightly turbid liquid was thus obtained to which hydrochloric acid was added in slight excess. On evaporating gently on a water-bath to a small bulk a flocculent white substance appeared, which we regard as a globuline-like body, precipitated by ammonium chloride, further re-dissolved by hydrochloric acid in excess and subsequently re-precipitated by concentration. After two hours' standing in the cold the precipitate was collected on a small filter and carefully freed from hydrochloric acid by washing with water. The completely neutral residue was then rinsed with hot water into a small flask and titrated with $\frac{1}{10}$ normal piperidine. It was found that the piperidine solution had no dissolving influence on the globuline-like body and only 0·08 of the $\frac{1}{10}$ normal piperidine solution corresponding to 0·00029 per cent. of uric acid was required to produce the colour reaction with phenolphtalein (taking regard of the error mentioned on page 200). We are inclined to regard this figure as actually corresponding to the amount of uric acid originally present in the serum. Whether this is the case or not it is obvious that it

[33] Croonian Lectures, 1892, p. 136.

[34] That uric acid cannot be completely precipitated from urine by hydrochloric acid was shown by Salkowsky (Pflüger's Archiv, Band ccx., 1372). See also Bunge: Physiologische Chemie, 1894.

[35] Centralblatt für Physiologie, Band ix., p. 388.

[36] Cf. O. Folin: Zeitschrift für Physiologische Chemie, Band xxiv., p. 224.

[37] For the filtering of the serum we are indebted to Mr. Bokenham.

[38] The alkalinity was estimated by titrating with $\frac{1}{10}$ normal acid until a reaction was obtained with Congo paper.

[39] Compare Gamgee: Textbook of the Physiological Chemistry of the Animal Body. Abeles: Harnsäure im Blute, &c., Medicinische Jahrbücher, 1887, p. 479.

must be substracted from our future estimations of the amount of uric acid taken up by this serum under varying conditions.

As till quite recently permanganate of potash was the most usual agent against which uric acid was titrated we thought it would be of interest to see what results would be obtained when normal serum was treated as above and finally titrated against permanganate. It was to be expected that a substance such as the globuline body described above would be partially or completely oxidised by a permanganate solution. From this it would result that a larger amount of permanganate solution would be required when uric acid is titrated in the presence of this substance and that the number calculated from that amount would not represent the actual uric acid alone, but the uric acid and other oxidisable substances. It has been confirmed recently by O. Folin [40] that the uric-acid-permanganate coefficient (1 c.c. $\frac{1}{10}$ normal permanganate = 0·003759 uric acid), although purely empirical, is for pure uric acid constant, but is evidently no longer so in the presence of other substances oxidisable by the permanganate. Our results entirely confirmed this *à priori* reasoning. It was found that the residue obtained in exactly the same way as described above from normal serum when titrated with a $\frac{1}{10}$ normal permanganate solution wanted 1·39 c.c. $\frac{1}{10}$ normal. Permanganate solution = 0·0052 per cent. uric acid. The permanganate solution was standardised immediately before use against pure iron and against the same pure uric acid used for controlling the $\frac{1}{10}$ normal piperidine solution. For this pure acid the figures obtained by permanganate and piperidine solution were absolutely the same. It follows from these results that the extraordinary high number calculated from the amount of permanganate required does really correspond to the uric acid present in the serum (which was found to be 0·00029 per cent. with the piperidine method).

We next turned our attention to determining the solubility of sodium biurate in our serum. 200 c.c. of serum were taken and the solubility estimated as described before was found to be 1 in 60,000 (twenty hours).[41]

Influence of certain bases on the solubility of sodium biurate in serum.—The experiments were made in exactly the same way as described above, serum being substituted for standard solvent, and are best shown in the following table.

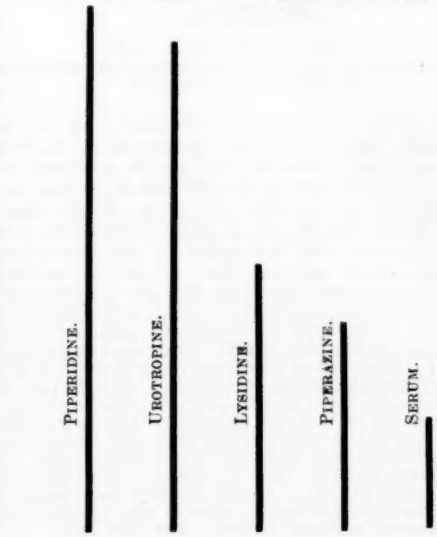
TABLE VI.—*Showing the Influence of certain Bases on the Solubility of Sodium Biurate in Serum.*

Quantity of serum used.	Quantity of solvent.	Solvent used.	Quantity of sodium biurate dissolved.	Solubility (in round numbers).	Solubility in terms of serum.
100 c.c.	0·1 g.	Piperidine.	0·0081 g.	1 in 12,000	4·7
,,	,,	Urotropine.	0·0076 g.	1 in 14,000	4·5
,,	,,	Lysidine.	0·0041 g.	1 in 25,000	2·4
,,	,,	Piperazine.	0·0032 g.	1 in 31,000	1·9
,,	—	—	0·0017 g.	1 in 60,000	1·0

Quantities of solids expressed in grammes.

It will be seen from the above tables that the solvent power of the bases in question is in direct proportion to the solubility of their respective urates in distilled water in the case of urine and urinary sediments, but not so in that of standard solvent and serum. This result we are unable to explain. The physical state of the urates formed, if formed at all, will probably have an influence *per se*. In a complicated fluid like serum the relative strength of the base would also be a potent factor in determining the formation of a urate. A further point to be noted is that the behaviours of standard solvent and serum are by no means identical and that results obtained by the one medium are not applicable to the other and any further experiments which are made in this direction should be made with serum.[42]

Graphic Representation of the Results expressed in Table VI. (10 mm. corresponding to 1 mg.).



CONCLUSIONS.

1. Tartrate of piperidine may be safely given to man in doses of 15 gr. (1 gramme) three times a day or oftener in uric acid gravel and in gout.[43]

2. Taking all the conditions into account this substance is preferable to any other drug up to the present introduced for this purpose, having the additional advantage of being sufficiently cheap to render it within the reach of everyone.

3. Lysidine, piperazine, urotropine all have an influence in increasing the solvent power of serum for sodium biurate and urine for uratic deposit in varying proportions, but to a less extent than piperidine.[44]

In this paper we have made no attempt to examine the *modus operandi* of the so-called uric acid solvents. This subject we shall return to later. Our experiments, so far as they have gone in this direction, have tended to show that all these substances diminish the total amount of uric acid excreted but not the total amount of nitrogen. This fact has led us to the opinion that these substances have a double action in that they, although capable of acting as uric acid solvents, also exert an influence upon metabolism. The close relationship between the constitution of uric acid and xanthin bases, as recently emphasised by the researches of E. Fischer,[45] renders it possible that under the influence of these reducing agents (to which class uric acid solvents mostly belong) uric acid is in the body transformed into xanthin or its immediate allies. This reduction has recently been accomplished in the laboratory with the help of formic acid (chloroform and potassium hydrate).[46]

[40] Zeitschrift für Physiologische Chemie, Band xxiv., p. 224.

[41] This solubility is probably too high, as 200 c.c. is, for reasons explained in a former note (see page 19), too small a quantity of solvent to take. In this connexion we made some estimations and found the solubility apparently considerably increased when small quantities were taken; for instance, the solubility when taking 25 c.c. agreed approximately with that ascribed to it by Dr. Luff (who also worked with 25 c.c.).

[42] This result is of interest, being another instance of the impossibility of obtaining artificially a fluid with the physiological properties of serum.

[43] This substance, at the suggestion of the writers, is now being made on a commercial scale by Messrs. J. Turner and Co., Queensferry, Flintshire.

[44] We should like to express our indebtedness to Dr. D. Ross for the careful and exact manner in which he has helped us in the large number of experiments which were necessary. Some further details of method will probably be published in a thesis upon which he at present is engaged.

[45] Berichte der Deutschen Chemischen Gesellschaft, Band xxx., p. 2226.

[46] E. Sundwick: Zeitschrift für Physiologische Chemie, Band xxiii., p. 416.

SEWAGE DISPOSAL AT MONMOUTH.—At the meeting of the Monmouth Town Council held on July 4th it was decided to treat the town sewage by the septic tank method, known as the "Exeter system."

NOTES ON A CASE OF

PURULENT CEREBRAL MENINGITIS OF AURAL ORIGIN WITH PECULIAR SYMPTOMS.

BY ADOLPH BRONNER, M.D.,

SURGEON TO THE BRADFORD EYE AND EAR HOSPITAL; LARYNGOLOGIST TO BRADFORD ROYAL INFIRMARY.

THE patient, a lad aged sixteen years, saw me on March 27th, 1898. He had had discharge off and on from both ears since childhood. Six months previously he received a severe blow on the left side of the head and had had pain in the head ever since. A few weeks before I saw him he put a plug of cotton-wool into the left ear and could not remove it. On March 20th he had severe pain in the ear and a swelling appeared behind the ear. Dr. Graham was called in, who removed the cotton-wool and the pain and swelling soon subsided. On the 25th the temperature suddenly rose to 104° F. and on the 26th to 105°. There was a slight rigor. When I saw the patient he seemed rather flushed but was perfectly rational, and with the exception of slight pain in the head and left ear he felt quite well. The pulse, however, was only 54 and the temperature was 100·5°. The patient was put to bed and the pulse and temperature remained about the same till March 30th, when the temperature suddenly rose to 104·5°. The following day it rose to 105°. A soft swelling now appeared behind the left ear and on pressure pus escaped into the external auditory meatus. The left optic disc appeared to be slightly congested. The following day the mastoid cells and attic were opened. The cells were not visibly affected, but the attic contained some caseous matter and débris and its upper wall was rough. The temperature now fell, but on the second day it rose to 105°. The left optic disc became more congested, but there were no signs of papillitis. The pulse varied from 60 to 80. On April 4th the incision behind the ear was prolonged and the cerebral fossa was opened with the chisel from the attic upwards. There was no, or very slight, bulging of the dura mater. Macewen's pus searcher was introduced into the brain, but no pus could be found. The lateral sinus was exposed and found to be normal. The temperature still remained high but gradually fell to 100° on April 13th. It then gradually rose to 102° on the 16th. On the 18th it was again nearly normal and remained so, or subnormal, till death on April 25th. The pulse varied from 60 to 70. On April 7th most peculiar symptoms set in. Slight left facial paralysis was noticed, and aphasia became apparent on the 8th. This increased for 4 days and gradually disappeared. On the 11th the patient had two epileptiform attacks, more marked on the left side of the body. The next day there was well-marked anæsthesia of the left arm up to the elbow, which subsided in two days. On the 18th late at night short epileptiform attacks set in and continued at intervals of from five to ten minutes till the next afternoon.

I am indebted to Dr. Eurich for the following description of the attacks. The jaw moved to the left with a grinding action. The pupils were dilated widely and the eyes were turned to the left, when they twitched in a nystagmus-like manner. Then the frontalis went into clonic contraction on both sides. Subsequently the whole of the left facial region twitched and the eyes were now turned to the right. There was slight laryngeal spasm which ended in sobbing. When these clonic spasms had subsided the patient turned to the right and with an effort raised himself into a sitting position with marked inclination to the right while the right arm was extended out of bed and the left arm was raised. He then sank back into bed; the head was retracted and the back was slightly arched. During the whole fit he was unconscious. He passed fæces and urine involuntarily. All these symptoms seemed to definitely point to pressure on the posterior end of the inferior frontal convolution of the right side. On April 19th a large trephine opening was made about one and a half inches above the right external auditory meatus. There was no pulsation. The dura mater was opened and a large quantity of extremely fœtid pus escaped. The next day the patient became very restless and irritable. He gradually became comatose and died on April 25th.

On post-mortem examination the space between the dura mater and the surface of both sides of the brain was so extensively filled with thick, partly gelatinous, pus that the convolutions were nowhere visible except at the very tip of the occipital lobes. The surface of the brain was rough and irregular. On taking out the brain the pus was found to have involved the base as far back as the apex of the interpeduncular space, including the sheaths of the first to the sixth nerves. All the sinuses appeared to be healthy. There was a small subpial abscess of the size of a marble in communication with the subdural collection of pus and implicating the outer and inner aspects of the left frontal lobe just anterior to the tip of the temporo-sphenoidal lobe.

This case is interesting from many points of view. The fact that the pus extended over both sides of the brain is in itself a not very common occurrence. Some of the symptoms did not point to purulent meningitis and other symptoms which one would have expected were absent. The pulse was slow at the beginning, only from 54 to 60, and varied from 50 to 80 during the course of the illness; only once or twice was it more than 80. The patient was never restless or irritable until a few days before death. Aphasia is a most unusual symptom and was evidently due to a small local abscess in connexion with the meningitis. The patient never vomited, yet sickness is said to be one of the most common symptoms in these cases. The deep and extensive lesion of the cerebral cortex did not cause the numerous and grave symptoms which one would have expected.

Bradford.

A CASE OF PRIMARY SUPPURATION OF BOTH SUPRARENAL GLANDS.

BY W. JANOWSKI, M.D.,

CHIEF OF THE MEDICAL SERVICE IN THE INFANT JESUS HOSPITAL IN WARSAW.

THE patient whose case is now described was a married woman, twenty-five years of age, and was admitted into the hospital under my care on March 4th, 1898. She had passed through small-pox, typhus fever, and diphtheria in childhood. The present symptoms were of three weeks' duration and commenced suddenly with violent shivering fits, which were repeated for several days. She also suffered from severe pain in the back under the right ribs and still had it when she entered the hospital; it was always severe and it spread towards the right side of the posterior and lateral surface of the chest wall and towards the right upper extremity. She was of average size and nutrition and was seven months' pregnant. Her skin was dry, yellowish in colour, and cold, as the fatigue of coming to the hospital had brought on collapse; her conjunctivæ also were faintly yellow. Her pulse was regular, but very weak, and 120 per minute; her respirations were 48 per minute. Her skin was swollen over the spine and seemed to be swollen at the lower part of the right side of the chest wall; it was very painful on the slightest touch both between the ribs and above them, so that she could not lie on her right side. The left lung showed nothing abnormal, but the lower anterior limit of the right lung was on the fourth rib, and the breath sounds were weak. The cardiac dulness was normal. The abdomen was moderately distended. The liver and the spleen could not be felt. The urine was of a very dark-brown colour, suggesting the presence of bile pigment, but no bile pigment, blood, albumin, or sugar could be detected on analysis; it was acid, had a specific gravity of 1022, and did not contain any deposit; the ordinary pigment gave a very dark-colonred reaction with Heller's nitric acid test. The symptoms pointed to paranephritis purulenta dextra; subdiaphragmatic abscess was negatived by an exploratory puncture. On March 5th the patient's state was much the same. During the previous night she had had shivering fits, with a temperature of 39·3° C. (102·8° F.); her pulse was 150 per minute and very weak; the heart-sounds were very feeble. After a consultation with Dr. Krajewski, who agreed in the diagnosis, a long incision was made in the right lumbar region and with some difficulty a collection of fœtid pus amounting to about 100 c.c. (3½ fl. oz.) was discovered

around the upper part of the right kidney between the capsule of the kidney and the surrounding fat. The patient's temperature ten hours after the evacuation of the pus was 39·8° C. (103·6° F.). She miscarried on March 6th and died an hour afterwards.

The post-mortem examination, made on March 7th by Professor Przewoski, showed no evidence of disease anywhere except in the suprarenal glands. Both these organs had suppurated and there remained of them only somewhat large capsules full of very offensive yellowish-green pus, in which there floated small necrotic, nearly black remains of adenoid tissue. The left kidney and the left paranephrium were quite normal, the abscess which remained in place of its supra-renal gland being entirely encapsulated. On the right side the capsule was adherent to the lower surface of the liver, but it was found on section that the pus had not penetrated into the tissues of the liver. The capsule of the abscess was not perforated on its lower surface either by the pathological process or by the surgeon during the operation, so that the suppurative infiltration round the anterior surface of the upper half of the right kidney was separated from the suppurated right suprarenal capsule by a membrane 0·5 mm. ($\frac{1}{50}$ in.) thick. The right kidney presented no other pathological process than a slight interstitial nephritis. The uterus was of the size of a child's head; its inner surface was quite healthy. A bacteriological examination of the pus was not made, but the omission was of no consequence as the identification of any particular bacteria could not have explained the formation of the abscesses. The conclusion is therefore inevitable that the case was one of primary suppuration of both suprarenal glands, and in this lies its principal interest, because such instances are very rare. At least, Neusser in his monograph on the diseases of the suprarenal gland remarks that primary unilateral or bilateral abscesses of the suprarenal gland are said to have been seen "in exceptional cases."[1] There is no proof that loss of one suprarenal gland is necessarily fatal provided that a normal one is left, but the destruction of both the suprarenal glands in this case must have caused the patient's death under any circumstances, for life would be impossible in the absence of both suprarenal glands since they have a very important function in connexion with the regulation of the blood-pressure. The extraordinary weakness of the pulse and of the first sound of the heart in this case exceeded anything that I had previously observed and I think that it might have been caused not only by the action of bacterial toxins on the organism but by the localisation of the pathological process in the suprarenal glands. The very dark-brown colour of the urine may have depended not only on an excessive amount of urine pigment but perhaps also on the presence of hæmoporphyrine, &c. Uromelanine has been found to occur in Addison's disease.[2] Perhaps the presence of the three above-mentioned symptoms may in future enable suppuration of the suprarenal glands to be diagnosed before an operation is performed.

Warsaw.

[1] **Neusser: Nothnagel's Specielle Pathologie und Therapie. Vol. xviii., Part 3, Erkrankungen der Nebenniere, p. 9.**

[2] **Neusser: loc cit., p. 56.**

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The annual general meeting of this society was held on July 15th, Mr. T. G. Alderton, treasurer, being in the chair in the unavoidable absence of the President, Mr. H. P. Potter. The annual report and balance-sheet were presented and adopted. The society has now a membership of 498 and is about to enter much larger and more commodious quarters necessitated by its continued growth. The President's retiring address was read by the senior secretary, Dr. F. J. McCann, and was entitled Some Observations on Old Age. Votes of thanks to the retiring officers of the society were duly passed and the following were elected to fill the offices for the ensuing year, 1898–1899:—President: Dr. S. D. Clippingdale. Vice-presidents: Dr. Lamb, Mr. A. G. Wells, Mr. C. M. Tuke, and Mr. L. A. Bidwell. Council: Mr. F. Lawrance, Mr. Herbert Menzies, Dr. Seymour Taylor, Dr. Elliot, Dr. F. H. Low, Dr. J. Harper, Mr. C. Andrews, Mr. Neville Wood, Dr. F. J. McCann, Mr. F. R. Mallard, Dr. G. P. Shuter, and Mr. F. Savery. Treasurer: Mr. T. Gunton Alderton. Secretaries: Mr. McAdam Eccles and Dr. G. D. Robinson. Librarian: Mr. C. B. Keetley. Editor of Journal: Mr. H. Percy Dunn. Editorial Secretary of Journal: Mr. McAdam Eccles.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GENU RECURVATUM WITH TALIPES VARUS AND SPINA BIFIDA.

BY JOHN B. O. RICHARDS, L.R.C.P., L.R.C.S. EDIN.

THIS case came under my notice in December, 1897. On Dec. 7th I was called to see a newly-born child as "its legs were not right." The child had been born about 2 hours when I saw her. The nurse in attendance informed me that it was a breech presentation and that there had been no difficulty in delivery. The legs were extended on the thighs at an acute angle, there was no movement whatever at the knee-joint nor could any patella be made out. The joints had the appearance of the flexor surface being in front. The feet were in a condition of extreme varus, the soles facing inwards. Spina bifida existed in the lumbar region, the tumour having a broad, thick base and being covered by membrane only. There was no exudation of spinal fluid and the tumour felt quite tense. Things remained thus till the 10th, when there was escape of spinal fluid and the tumour began to slough. On the 15th there was constant discharge of fluid and sloughing had gone on rapidly. The child was twice convulsed. The fits increased in number till the 19th, when death took place. During the whole period there was no increase in movement at the knee-joints. There was no pain during pregnancy except at the fifth month, when the mother had a fall from a dogcart. She attributes the deformity to this accident. From what I could learn from the nurse there was no excess of amniotic fluid. All the other children, 4 in number, are quite healthy and free from any deformity. The parents refused to allow a post-mortem examination of the joints to be made.

Binbrook, Market Rasen.

A CASE OF SUPRAPUBIC LITHOTOMY.

BY ANTONIUS J. MANASSEH, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a boy, aged four years, was admitted to the Friends Mission Hospital suffering much pain during and after the act of micturition; he frequently passed urine in the day, had incontinence of urine at night, and was noticed to be constantly handling his penis. His prepuce was elongated. Chloroform having been administered and the bladder sounded the presence and size of a calculus was ascertained by this method and by introducing the finger into the rectum. On June 4th suprapubic lithotomy was performed under chloroform and ether, all preliminary antiseptic precautions having been taken. The bladder was injected with 3 oz. of warm boric acid lotion and a metal catheter was left in as a guide to the bladder. No rectal bag was used. An incision 2½ in. in length was made in the abdominal wall close above the pubes and as soon as the bladder was recognised a sharp hook was passed through its muscular coat and two silk stitches were introduced, one on each side of the middle line. The partially distended bladder was opened with a scalpel, the calculus was sought for and removed, and the bladder was then washed out with boric acid lotion and closed with catgut sutures. The abdominal wound was united with interrupted sutures, and a small indiarubber tube was introduced at the lower end of the wound and just beneath the skin but was removed after twelve hours, a soft catheter passed through the urethra being left in the bladder. The patient suffered very little from the after effects of the operation. He vomited once or twice after being removed to the ward, but passed a good night lying on his back. Next morning the soft catheter was removed and the patient was encouraged to pass urine every hour or two, which he gradually did with ease. On the seventh day after the operation the stitches were removed; the wound then looked healthy, primary union occurred, the patient made a speedy recovery, and was discharged on June 21st, 1898, quite well.

The above case illustrates the advantage of suprapubic

lithotomy for children. It is not only an easy operation but also free from the risk of wounding important parts. I found the metal catheter a great help to guide me in opening the bladder.

Brumana, Beyrout, Syria.

A CASE OF PELVIC CELLULITIS IN THE MALE.

By JOHN HUGH REES, M.D. EDIN.,
AND
CHARLES TANFIELD VACHELL, M.D. LOND.

A MAN, aged forty-three years, had been ailing for a fortnight or more, but was first seen by Dr. Rees on Oct. 31st, 1897, and although the symptoms were not characteristic it was thought that the case would prove to be one of mild enteric fever and the patient's diet was prescribed accordingly. The tongue was thickly coated, constipation was persistent and each night there was profuse perspiration; no typhoid spots were noticed. On Nov. 5th the Clinical Research Association reported as follows upon a specimen of the blood: "This serum gives a very marked reaction when in a strength of 50 per cent.; when the serum is used in a strength of 5 per cent. a fairly definite but not complete reaction is obtained within half an hour; after twenty-four hours reaction is still more marked; we should think on the whole that the case is enteric if you are able[1] to eliminate the possibility of a previous attack." On the 20th the temperature, which had been gradually falling since the 12th, became subnormal and continued at or about the normal line until the 27th, when the patient was allowed to get up. At once the temperature rose again until on the 30th it had reached 103° F. Constipation still continued and hard masses of scybala were daily removed by enemata. With rest in bed the temperature quickly declined and became normal on Dec. 13th. On the 19th he got up again; on the next day the temperature again rose and on the 24th was 104°. It was once more normal on Jan. 10th, 1898. On the 16th he was allowed to get up, but on the 17th the temperature again rose and though he was kept in bed on strictly milk diet he was very ill and on the 25th he was seized with severe pain in the lower part of the abdomen, which lasted for 12 hours, the temperature rising to 104°. Constipation was severe, hard scybalous masses being removed with considerable difficulty by means of enemata. The temperature fell to normal on the 31st. On the 29th there was some difficulty in micturition, the flow also stopping suddenly at times; there was tenderness over the bladder region and also much flatulent distention of the abdomen. Scybala were passed daily, being sometimes accompanied with mucus. There appeared on the abdomen spots which had some resemblance to rose spots, but were probably sudamina. On Feb. 6th and 7th the temperature rose to 100° and on the 8th a rectal examination revealed the existence of a large, hard, nodulated, irregular tumour projecting from and filling the recto-vesical pouch. On the 9th Mr. Watson Cheyne saw the patient in consultation. The tumour was examined under chloroform, but no definite diagnosis was arrived at. He was ordered complete rest, aperients, daily enemata, and iodide of potassium, with solid food. On the 19th the swelling had distinctly become smaller and the patient became much more comfortable. The sweats lessened and by the end of the first week in March the tumour had almost disappeared. From this time convalescence was uninterrupted.

[1] There was no history of a previous attack.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the Directors of this society was held on July 13th, Mr. Christopher Heath, Vice-president, being in the chair. Two members were elected and the death of Mr. Henry Lee, Vice-president, was announced. The death of a widow was reported who had been in receipt of grants since January, 1868, and had received in all £893. It was resolved to distribute £1203 10*s.* among the 49 widows and 12 orphans on the books of the society and the 6 recipients from the Copeland Fund. The expenses of the quarter were £44 13*s.* 6*d.* The funded property had been increased by the purchase of £500 Birmingham Corporation Stock.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

THREE CASES OF EXTENSIVE VENOUS THROMBOSIS ASSOCIATED WITH SEVERE RHEUMATIC CARDITIS; NECROPSIES.

(Under the care of Dr. W. B. CHEADLE and Dr. D. B. LEES.)

FOR the notes of the cases and the pathological and bacteriological investigations we are indebted to Dr. F. John Poynton, medical registrar to the hospital.

CASE 1.—A girl, aged nineteen years, was admitted into St. Mary's Hospital, under the care of Dr. Lees, for shortness of breath and swelling of the arms and legs. In January, 1897, she had suffered from a very severe attack of rheumatic fever for which she had been kept in bed for thirteen weeks and during this time she was reported to have had both pneumonia and peritonitis. The history of this present illness dated from August, 1897, when the patient noticed swelling of the legs and abdomen; in September, however, there was decided improvement. In the first week in October the symptoms again became more urgent and a few days before admission to hospital the left arm suddenly commenced to swell. On admission, on Oct. 19th, her condition was extremely grave. She was very pale and distressed. The conjunctivæ were icteric and there was orthopnœa. The temperature was subnormal and remained so throughout the illness. The legs and thighs were œdematous. The left arm and hand were much swollen and the face was puffy; the right upper extremity pitted on pressure and the upper part of the chest was œdematous. The cardiac condition was that of advanced organic disease. The pulse was 90 and very irregular in force and frequency. Not all the beats of the heart were perceptible at the wrist. The impulse was diffuse and the heart was much and generally dilated. A systolic apical murmur was heard and an accentuated pulmonary second sound. The air entry and percussion note were impaired at both bases posteriorly. The liver was large and tender and the urine contained some albumin and was loaded with urates. For the next few days there was some slight improvement, but at midnight on Oct. 31st the patient became aphasic, the right hand appeared to be weak, and the right leg was kept semi-flexed. Deviation of the head and eyes did not occur. The patient appeared to understand what was said, but she gradually became more and more drowsy. Then followed loss of sphincter control, difficulty in swallowing, coma, and finally death.

Necropsy.—Dr. Poynton made a post-mortem examination twenty-four hours after death. He found that the pericardium was totally adherent, in places firmly and in other parts only feebly so. Both auricular appendices were compressed by the pericardium and round the large vessels the pericardial and mediastinal tissues were œdematous. The heart weighed 16 oz. and the cavities were dilated, especially that of the right ventricle. The mitral orifice was slightly narrowed by old rheumatic endocarditis, but the valve deformity was quite moderate. The aortic valve was incompetent from previous rheumatic endocarditis. The tricuspid valve was incompetent but there were no rheumatic changes in this valve. The pulmonary valve was natural. The right auricle was empty. The left ventricle was 1¼ in. thick. The muscle was firm and of good colour. Both lungs were adherent to the chest wall. Both internal jugular veins were like firm cords and contained adherent clot throughout their entire extent. The lower end of the left internal jugular was white and narrowed and very firm. Both venæ innominatæ contained adherent clot and the left one could hardly be recognised among the œdematous tissue of the mediastinum. The upper part of the superior vena cava contained clot which was firmly adherent to one side of the

vein wall but did not occlude the entire lumen or project into the auricle. There was no clot in the inferior vena cava. The brain was generally softened but no local change or change in any particular vessels was found. The liver showed advanced nutmeg changes due to tricuspid incompetence. The kidneys were indurated from chronic venous congestion.

CASE 2.—A young woman, aged twenty-one years, was admitted to the hospital under the care of Dr. Cheadle on Feb. 9th, 1898. When a child she had suffered from an attack of scarlet fever which was followed shortly afterwards by an attack of rheumatic fever. Two years ago she suffered from a second attack of rheumatic fever. This present illness began gradually with weakness, increasing dyspnœa, and œdema of the face and legs. On admission to hospital the patient was very ill, the face was puffy, and she was very anæmic. The temperature was 101° F., the pulse averaged 128 and the respirations 28. The legs pitted on pressure. The pulse was regular and of low tension; the heart was dilated. On auscultation a loud systolic murmur was heard all over the front and back of the chest; the impulse was diffuse and a systolic thrill could be felt. Bronchitic sounds were heard over both lungs. Neither the liver nor the spleen could be felt below the costal arch. The urine contained albumin, blood and some tube casts, and the specific gravity was 1020. During the next week there was marked dilatation of the heart, with irregular pyrexia, free sweating, and decided increase in the œdema and dyspnœa. On Feb. 18th the liver and spleen could both be felt below the costal margin. The urine was scanty and contained albumin and blood, but no more casts were found in spite of repeated and careful search. One special feature of this case was a frequent and harassing cough, for which there was no apparent explanation. On the 21st there was complaint of pain in the wrists and left forearm, the face was more puffy and the conjunctivæ were icteric; the pain in the forearm was localised to the inner side over the region of the flexor carpi ulnaris and palmaris longus; this area was very tender, but there was no local redness. During the next week there was distinct improvement and the heart became smaller, but this was not maintained and in the first fortnight of March the pyrexia, which had been persistent, became more marked and more irregular. The pulse was now irregular and there was orthopnœa, with attacks of severe dyspnœa. On March 17th sudden pain was felt in the left loin and more blood appeared in the urine. The left lung was dull at the base and over a considerable area tubular breathing was heard. The face, which had become almost free from œdema, now again became puffy, especially upon the left side. On the 19th some casts were again found in the urine together with blood, the heart was very dilated, and the patient was moribund. She died on March 20th.

Necropsy.—A post-mortem examination was made by Dr. Poynton on March 21st. The pericardium contained a slight excess of clear fluid, but there was no definite pericarditis. The heart weighed 14 oz. All the cavities were much dilated; in addition there was distinct hypertrophy of both ventricles and of the left auricle. The muscle was pale. The mitral orifice was slightly larger than natural, as also was the tricuspid. There were numerous exuberant granulations on the mitral valve and a portion of the anterior cusp was free, the chordæ tendineæ attaching it to the papillary muscle having ulcerated and given way. Vegetations had also spread along the anterior wall of the left auricle upon the inner surface. On the wall of the left ventricle below the mitral valve were a few isolated vegetations. The tricuspid, aortic, and pulmonary valves were not affected. The lower lobe of the left lung was solid with pneumonic change; the right lower lobe was extremely congested but did not sink in water. The spleen weighed 8 oz. and there were two infarcts within it, one of which was quite recent. The liver weighed 44 oz. and was fatty. Each kidney weighed 6 oz. and contained one infarct; the capsule of each was thickened but not adherent; the cortex was pale. In the left internal jugular vein was a clot extending from the junction with the left subclavian to the angle of the jaw. This was pale and adherent to the wall, especially in the lower part, where the vein was cord-like. The innominate veins and right jugular were not thrombosed nor were the inferior vena cava and its larger tributaries. The brain appeared to be quite natural.

Microscopical examination.—Dr. Poynton is indebted to Mr. Brincker, post-mortem assistant at the time, for much assistance with the microscopic work. The pericardium showed in the visceral layer some early inflammation. The heart muscle had lost striation considerably and most of the fibres showed pigmented perinuclear granules. The mitral valve was much affected by inflammation, but we were unable to demonstrate micro-organisms in the granulations. Sections of the left internal jugular vein showed an organising thrombus, but micro-organisms could not be demonstrated in the vein wall, which was not distinctly thickened. No organisms were found in the clot. Sections of the right internal jugular, which was not thrombosed, appeared to be natural. The left lung was pneumonic and numerous diplococci were demonstrated by Gram's method. The kidneys showed no sign of interstitial inflammation from any old-standing nephritis. In the neighbourhood of the infarcts there were hæmorrhages in the substance, and the renal epithelium showed much cloudy swelling, but otherwise nothing remarkable was observed.

CASE 3.—A girl, aged nine years, was admitted to the hospital under the care of Dr. Cheadle on Feb. 19th, 1898, for swelling of the body and limbs and collapse. Two years previously she had suffered from an attack of scarlet fever, since which time the heart had been affected. There was a marked rheumatic history upon the father's side. The mother unfortunately was addicted to alcoholism, so that it was not possible to obtain a careful description of the onset of the present illness. The child had been ailing for three weeks with pain in the chest and cough, and during the last week dropsy was noticed. On admission to hospital the patient was very pale and the face was œdematous, the expression being distressed. There were slight cyanosis and orthopnœa. The temperature was 97·4° F., the pulse averaged 100, and the respirations 30. The fingers were clubbed, the lower extremities were œdematous, and the front of the chest pitted on pressure. The abdomen contained some fluid. The pulse was irregular, weak and small. The heart was much enlarged; the left limit was four finger-breadths external to the left nipple and the right limit was three finger-breadths external to the right margin of the sternum. There were marked epigastric pulsation, præcordial bulging, and a systolic and diastolic thrill. At the apex a systolic murmur was heard and over the aortic cartilage systolic and diastolic murmurs were audible. There was also a doubtful pericardial scratching sound heard to the left of the sternum. The air entry was impaired over the bases of both lungs and there were scattered rhonchi and sibili over both the front and the back of the chest. The appetite was good, though the tongue was furred. The urine was acid, the specific gravity being 1025; it contained albumin and blood, but no casts. The liver was enlarged and pulsating. The child slept with her face turned towards the pillow. After admission to hospital the œdema gradually subsided and the blood in the urine disappeared. Steady improvement was maintained until March 10th, when pleural friction was heard in the left axilla and there was distinct dulness on percussion at the left base. The urine contained a trace of blood, but there was not any rise of temperature. After this outbreak there was again improvement, the œdema disappeared, the liver became smaller, and the signs in the left pleural cavity cleared up. On April 10th there was once more pain in the left side and also dulness at both bases. The axillary glands were noticed to be enlarged. The heart was more dilated and the action was feebler; the liver also had increased in size. On the 13th the left side of the face became swollen and on the 16th there was marked œdema of the right side of the neck, the face was purple, and the eyelids and lips were swollen. Both sides of the neck were tense and tender on the least pressure. Movement of the neck was painful. The temperature was subnormal; there was no swelling of the legs or ascites. Dr. Cheadle saw the child and diagnosed thrombosis of the internal jugular veins. On the 17th the right arm began to swell. Mr. Willcox, a medical clerk at St. Mary's Hospital, kindly took a photograph of the patient, of which Fig. 1 is a reproduction. Mr. A. L. Saunders, demonstrator of anatomy at St. Mary's Hospital, subsequently made a sketch (Fig. 2) from the dissection of the thrombosed veins. Shortly after the right arm had become swollen the left arm began to swell. The chest was œdematous. The child was very apathetic and took food badly. On the 18th she was very drowsy and apathetic and the face was cyanosed. At midday there was sudden dyspnœa and two attacks of great restlessness occurred. The extremities became cold and the pulse at the wrist was imperceptible;

there was much suffering. On the 19th the œdema of the right arm was extreme and there was tenderness on pressure, but the face was less swollen. The respiration was slow and sighing. On the 20th two firm cords were felt in

FIG. 1.

Reproduction of a photograph of a patient, aged nine years, with thrombosis of the large veins of the neck. The face, especially the lips, neck, and front of the chest are swollen and the right arm has commenced to become œdematous.

the lower part of the neck. The legs and feet were a little swollen. The area of cardiac dulness was now enormous and there was loud general pericardial friction. Sharp crepitations were heard over both lungs. The urine was scanty; it

FIG. 2.

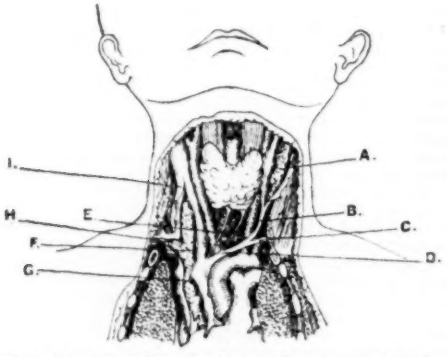


Illustration representing thrombosis of the veins, reproduced from a sketch by Mr. A. L. Saunders. A, Soft clot in the distended left internal jugular vein. B, The narrowed firm portion of the internal jugular vein. C, Left subclavian vein. D, Left innominate vein. E, Inferior thyroid vein. F, Right innominate vein. G, Superior vena cava. H, Right subclavian vein. I, Right internal jugular vein. All the veins were thrombosed. The external jugular veins are not shown.

contained a trace of albumin and no blood. Food was refused. Death took place on the 21st.

Necropsy.—A post-mortem examination was performed by Dr. Poynton on Feb. 22nd. There was great difficulty in obtaining permission and the cranial cavity was not opened. The pericardium contained between 4½ oz. and 5 oz. of turbid fluid and the surfaces were coated with recent lymph. All the cavities of the heart were dilated. Both ventricles were hypertrophied, the right proportionately more than the left. The mitral orifice was incompetent, the valve segments and chordæ tendineæ were thickened, and in addition along the cusps were some recent vegetations. The tricuspid orifice was incompetent and along the cusps were recent vegetations. The auricles were dilated, but the right auricle was empty. The aortic valves were thickened and incompetent and beaded with recent vegetations. The pulmonary valves were natural. The following veins were thrombosed: the right innominate, subclavian, axillary, internal and external jugulars—the last only in the lower part of its course; the left internal jugular, external jugular, inferior thyroid, axillary, subclavian and innominate. In its upper two-thirds the superior vena cava was thrombosed. Looking into it from the auricle a pale, soft clot could be seen, not adherent, blocking completely the lumen of the vessel; higher up the clot was quite firm. Both internal jugulars felt like firm cords in their lower part and were white and small, whereas in the upper part they were bulged with soft clot. The left innominate was small and white and only admitted a small probe. The veins were more adherent to the surrounding tissues than usual. Fig. 2 represents the appearance found post mortem. Though more extensive it is quite comparable to the condition found in Case 1, but there was no pericardial adhesion or obliteration of auricular appendices as in the latter. The inferior vena cava and its tributaries were natural. Unfortunately, whether as in the first case the brain was œdematous could not be ascertained nor whether the lateral sinuses were thrombosed. It is, however, certain that the clotting did not begin in these sinuses, for the further the distance from them the older was the thrombosis in the jugular veins. Nodules were present on the dorsum of the right foot and in the scalp. The remaining organs showed the usual secondary changes from advanced morbus cordis. There was no evidence of infarction.

Microscopical and bacteriological examination by Dr. POYNTON.—Cultivations from the pericardial fluid, lymph, and blood-clot were negative, as also were films made from the pericardial fluid and blood-clot. The conditions of the heart wall and pericardium are of interest because they represented the condition of a very acute rheumatic carditis. As regards the pericardium the vessels in the subserous areolar tissue of the visceral layer were extremely congested and the areolar tissue surrounding them was much swollen and hyaline in appearance. The superficial connective tissue layer contained numerous inflammatory cells, and, finally, there was an adherent layer of lymph, the serous epithelium having disappeared. The same process could be traced throughout the heart wall along the course of the vessels; there were the same swelling of the connective tissue supporting them and the same inflammatory cell exudation—this could be traced between the muscle fasciculi—and the capillaries between the fibres were dilated. Immediately beneath the pericardium the process was quite distinct and there was loss of striation, but no gross change was apparent in these superficial layers as compared with the deeper. The muscle fibres, with their nutrition altered thus and supplied by blood probably toxic with the rheumatic poison, must necessarily have suffered throughout the heart wall. Sections taken through a papillary muscle, with its chordæ and a part of the mitral valve, showed very markedly this interstitial inflammation. The soft clot in the superior vena cava was hardened and sections were cut, but no organisms were discovered. A series of sections were made from the right brachial vein to the axillary, from a region not thrombosed to a region definitely so. Sections of the vein showed the clot gradually permeated by spindle and round cells, with formation of a network, the adhesion of the clot to the vein wall, first at one place, then at several, by means of branches spreading in from the intima, and finally the formation of canals lined with spindle cells. In these sections the vein wall was not noticeably thickened, but as the thrombus became more firmly attached there was evidence of early phlebo-sclerosis. Doubtless the lowest portion of the internal jugulars would have shown this process more markedly. No micro-organisms were found either in the clot or vein wall. A section from the left brachial showed a small adherent

thrombus at one point, slightly diminishing the lumen of the vessel.

Remarks by Dr. POYNTON.—Owing to the detail in the description of the cases given above it seems advisable to briefly review them, as they are unquestionably of different value. Case 1 is incomplete—clinically because the patient was such a short time under observation and pathologically because, ignorant of the rarity of the condition, which fact was first pointed out to me by Dr. Cheadle, I made no minute observations. Case 2 is an unusual one, resembling very closely malignant endocarditis. It is included with the other two because no micro-organisms were found upon the valves and more especially because, the etiology of acute rheumatism being still obscure, the exact place which malignant endocarditis must take in relation to it must still be uncertain. Having pointed out the gradual onset, the continued pyrexia, the sweating, infarction, and ulceration of the chordæ tendineæ, it is left open to challenge as to whether or not the condition is comparable to that of the other two cases. Case 3 is by far the most complete, for the diagnosis was made some days before death and the symptoms were accordingly studied with more precision. The remarkable similarity in the distribution of the thrombosis in Cases 1 and 3 has been alluded to earlier in this article.

In a comprehensive paper by Gatay on *La Phlébite Rheumatismale*[1] two views are put forward in explanation of the thrombosis. One is that of Schmidt, who considered the thrombosis primary, and the other is that of Letulle and Gatay, who considered a rheumatic phlebitis to be the first event. Confining my attention solely to the cases mentioned above, it seems to me impossible, so long as the exact etiology of rheumatic fever is obscure, to decide which process was the initial one. It is certain that the blood-current was feeble, for the heart muscle was distinctly affected in two cases, and in all there was much organic disease with tricuspid incompetence; the blood was altered, for there was profound anæmia, and both these conditions predispose to thrombosis. On the other hand, the veins most affected were veins in which the circulation was aided by gravity, especially as there was orthopnœa, though where the thrombosis was most advanced the vertical current in the jugulars meets a more or less cross current in the subclavians. Again, in two cases there was active carditis, which suggests the possibility of phlebitis, and in one case there was periphlebitis. Changes in the vein wall would rapidly follow a primary thrombosis and apart from the periphlebitis the changes found were not in favour of a primary phlebitis. That such poisons as snake venom produce a "ferment thrombosis" is well known and it is possible, on the other hand, that a weakened circulation may intensify the effect of the rheumatic poison and thus cause inflammation in structures such as the veins, which are more rarely affected. So much, in fact, depends upon the exact nature of the rheumatic process that in such complicated cases as these are it seems hazardous to dogmatise.

The duration of the thrombosis is a point which has considerable practical interest. The changes in the axillary vein described above pointed to a duration of at least eight days and the condition in the jugulars was of considerably longer standing. Now in both the cases under observation for some weeks there was varying œdema of the face, noted from the time of admission, which is not common in cardiac disease. Again, sections of one vein showed in some places clot adherent in one place only, whilst elsewhere the lumen was free. These facts point to the possibility of a gradual thrombosis having occurred during a period of weeks, with exacerbations when the disease flared up, and at last the final standstill. Œdema of the face, which is more commonly observed in the advanced morbus cordis of children, may in some of the cases, perhaps, depend upon the occurrence of a partial thrombosis of this kind.

The diagnosis may not be quite easy. In Case 3 Dr. Cheadle pointed out the close resemblance in the appearance of the neck to severe parotitis and to angina from severe throat affections. Again, when there are blood and albumin in the urine the œdema and pallor of the face are very suggestive of Bright's disease. The distinctive features are the local appearance and spread of the œdema, the marked tenderness, and the extreme swelling and pain on moving the head in the severe cases. The feeling of the firm cords in the neck is convincing, but not an easy observation because of the danger of any but the lightest manipulation, and also the tenderness and the rigidity of the inner heads of the sterno-mastoids. Mental apathy is a remarkable symptom. The prognosis of these cases, apart from the thromboses, is exceedingly grave, and that they introduce an additional element is shown by the occurrence of aphasia and a gradual coma in the first case and sudden dyspnœa and pulselessness in the second. The treatment must necessarily be considered from the view of the general condition present, and great care in moving the patient is necessary where there is this additional complication.

Thrombosis in rheumatism is quite one of the rarer features of this disease. Dr. Archibald Garrod in his treatise on Rheumatism makes a very definite allusion to it and quotes the researches of Schmidt and Letulle upon the condition. Dr. Cheadle mentioned to me other cases he had met with. Gatay in his paper in 1896 describes two cases with necropsies; one (Macaigne and Laurens's case) showed small-celled infiltration of each coat of the vein and desquamation of the endothelium followed by an inflammatory change in the vessel wall. Bacteriological results were negative. In this case thrombus was found in the brachial, axillary, and subclavian veins. Renouard noted difficulty in turning the neck in one case. Gatay states that it can attack the veins of the neck, but it is exceptional for it to start in the jugulars. One case is quoted where a thrombus was found in the external jugular only. Macaigne and Laurens noted in their case the heavy mental state. Petechiæ, erythemata, and fever are pointed out as occurring simultaneously with the thrombosis and the veins may be arborescent in the neighbourhood. It would appear from the literature on the subject that the veins of the extremities, especially the lower extremities, are most frequently affected. Two of the cases recorded above certainly appear to be quite remarkable both in their similarity and the great extent of the thrombosis.

In conclusion, I must thank Dr. Cheadle and Dr. Lees for most kindly allowing me free use of the clinical notes. I must also thank Mr. Plimmer, bacteriologist to the hospital, for suggestions and advice in the microscopic work; Mr. A. L. Saunders for the sketch of the thrombosed veins; Mr. Willcox for the photograph of one of the patients; and Mr. Brincker for help with the microscopy in one of the cases.

[1] La Gazette Hebdomadaire de Médecine et de Chirurgie, February, 1896.

Reviews and Notices of Books.

Sir Benjamin Collins Brodie. By TIMOTHY HOLMES, M.A. Cantab., F.R.C.S. Eng. Masters of Medicine Series. 8vo. London: T. Fisher Unwin. 1898. 3*s.* 6*d.*

THE newest volume of the Masters of Medicine Series from the pen of Mr. Holmes describes in a clear, pleasant, and scholarly book Sir Benjamin Collins Brodie's career of unbroken success. Brodie was of ancient Scotch lineage, but his grandfather came south in the early half of the eighteenth century, having been involved, probably, in Jacobite plottings, Brodie's father, Peter, was a *protégé* of the first Lord Holland, in accordance with the terms of whose will he became rector of Winterslow in Wiltshire. Benjamin, the subject of Mr. Holmes's biography, was the third son of the rector of Winterslow by his marriage with Sarah, the daughter of Benjamin Collins, the Salisbury printer and banker, who published and was part proprietor of the copyright of the "Vicar of Wakefield." He was born in 1784 and brought up at home very strictly, receiving the sound classical education which would be expected from the character of his forbears. In 1801 he came to London to Abernethy's School of Anatomy, and in 1803 he joined the St. George's Hospital Medical School in the character of Sir Everard Home's pupil. His choice of profession seems to have been dictated by family reasons and not at all by any personal proclivity. Dr. Denman—father of the Lord Chief Justice—was his uncle by marriage; Dr. Baillie, nephew of the great John Hunter, and Sir Richard Croft, the leading accoucheur of the day, had married his cousins; while Sir Everard Home as Hunter's brother-in-law was a connexion. At St. George's

Hospital Brodie worked hard at literature and physiology as well as anatomy and surgery, and kept carefully written notes of the cases under his staff-surgeon's charge—not at that time a usual proceeding. In 1805 he became house-surgeon. This post he held for six months, resigning it to lecture in anatomy at the Great Windmill-street School. Three years later, when only twenty-five years of age, he was elected assistant surgeon to St. George's Hospital under the style of "Assistant to Sir Everard Home," for in those days there were no assistant surgeons, or assistant physicians so-called, and the present out-patient difficulty was unknown. From this time he went on from strength to strength. In 1809 he set up in private practice with almost immediate success. In 1810 he was elected a Fellow of the Royal Society for his practical work on embryology, and in 1811 he received the Copley Medal of the Society, being the youngest Fellow who had ever received the award. In 1812 he began to work systematically at the great topic with which his name will always be associated as a surgical writer—the diseases of joints. Mr. Holmes considers that it was Brodie's "chief achievement as a surgeon that he threw so clear a light on that most important, because most common, class of diseases"; and that in this way most notably his "surgical labours tended to benefit humanity and to shed a light on the true interests of life (*inlustrans commoda vitæ*)." Before Brodie's work the whole subject of the diseases of joints was treated in an illogical manner; curable diseases were mixed in the surgeon's mind with incurable, and no clear line was drawn between the conditions dependent upon real pathological changes and those which are generally styled hysterical. It was into this sort of chaos that Brodie introduced order. We do not attempt to trace Brodie's career step by step, because we hope that all our readers will go to Mr. Holmes's book for the details of the very interesting story of the life of this master of medicine—Lord Lister's great predecessor in the double character of eminent surgeon and President of the Royal Society. No great surgeon, save only, perhaps, Sir Astley Cooper, has ever bulked so largely in the public eye as Sir Benjamin Brodie and in reading Mr. Holmes's book we can see the reason for this. Brodie was an eminently sane and safe man, who had reached his conspicuous place in the world by methods which were not only creditable to his genius but comprehensible to the public. His science was the straightforward exemplification of the best surgical work of his day. While ready to accept developments and while showing that he was capable of initiating them, he remained respectful to precedent. There was nothing mystical about him and nothing slap-dash. His industry was undoubted and his scholarship respectable. To the medical profession he was a very tower of strength, so high did he stand in the opinion of the outside world as the great surgeon, the President of the Royal Society, the friend of princes, the gentleman by birth and manners but no less the self-made man by work.

"The only physicians," says Mr. Holmes concerning Brodie's Presidency of the Royal Society, "who have been thought worthy of this great distinction were Sir Hans Sloane and Sir John Pringle, besides Wollaston, who, however, threw up both the presidency and the profession in disgust when he was rejected as a candidate for the office of physician to St. George's Hospital. The great man who now fills the chair of the Royal Society is the second surgeon who has filled that office, and the one who has probably succeeded more than any other person who has yet lived in applying science directly to the saving of human life, as Brodie may be said to have been the one who succeeded more than all his predecessors in connecting the pursuit of surgery with the cultivation of science in general. It was John Hunter, indeed, who first established the connexion between surgery and the science of physiology and who then became, as his monument in Westminster Abbey justly styles him, 'The Founder of Scientific Surgery'; but it was Brodie's peculiar glory, his main title to posthumous fame, to have carried this connexion further and to have shown how much the practice of surgery may gain from the possession by its professor of a competent acquaintance with physical science in general and how much he may thereby raise the whole profession in the estimation of the public."

This passage is an excellent summary of Brodie's claims as a man of science over and above his claims as a pure surgeon.

It has been pleasant to us, as it will be to all medical men, to read this story of steady, well-earned success, and Mr. Holmes's style will add much to the enjoyment. The author's range of reading is displayed in his comments; while the practical wisdom of his views on such topics as, for example, the over-examination of students, the proper attitude of the medical profession towards quackery, and the due scope of the work of the General Medical Council cannot be gainsaid. Yet there is no display of learning and no dragging in by the heels of contentious topics. Mr. Holmes never forgets that he is writing a Life of Brodie; but again and again, and unconsciously, he proves that he is the man to give us a proper estimate of his subject. Brodie was more than a surgeon and Mr. Holmes is more than a biographer.

Guide to the Examination and Treatment of Sick Children. By JOHN THOMSON, M.D., F.R.C.P. Edin., Extra Physician to the Royal Hospital for Sick Children, Edinburgh, &c. Pp. 336, with 52 Illustrations. Edinburgh: William F. Clay. 1898. Price 9*s*.

DR. THOMSON'S book is a notable addition to the literature of the diseases of children. It is written entirely from a clinical standpoint, concentrating the reader's attention on the sick child and on the various changes which are produced by different forms of disease. There is no attempt at a systematic description of any maladies, a general knowledge of clinical medicine being assumed. But Dr. Thomson has brought out with great skill the salient characteristic features which would be observed at the bedside of a child suffering from diseases of the respiratory organs, for example, as distinguished from those which would be present in an adult. In a similar way he has drawn attention to the peculiarities of children in their susceptibility to drugs or other therapeutical weapons. The task which Dr. Thomson set himself was an extremely difficult one, and we may preface this notice by saying that he has accomplished it with rare success.

The book commences with an excellent summary of the leading facts in connexion with the growth and development of the child, including the acquisition of speech, followed by an account of the affections which are associated with the epochs of development. With regard to the influence of teething Dr. Thomson steers a middle course. This influence, which older writers made responsible for most infantile disorders, has, according to him, been enormously exaggerated. "At the same time it is equally certain that teething, like menstruation, pregnancy, and other mental states, is often accompanied by marked symptoms both local and reflex, and like them may produce temporarily a tendency to disease which is not present at other times." There is a chapter on the physiognomy of disease which is a model of close observation and is illustrated with some very characteristic photographs showing the facies associated with acute diarrhœa, nephritis, adenoids, and congenital syphilis. The examination of the various regions of the body is then systematically considered and the significance of the signs and symptoms is given in a clear but not too dogmatic style. Dr. Thomson does not hold the view that the presence of craniotabes is necessarily indicative of congenital syphilis, but he admits that the most severe degrees are rarely found

except in children who are syphilitic as well as rickety. The section on Heart Disease, both congenital and acquired, will well repay perusal. Dr. Cheadle's teaching has been followed and the striking differences in the clinical picture presented by cases of cardiac disease in childhood and adult life is very well brought out. The section on the Indications of Mental Defect is very useful, as Dr. Thomson describes the appearances met with in quite young children, while the text-books on the subject only deal with children in institutions who are considerably older. There are some particularly instructive photographs illustrating the appearance of infants suffering from the Mongolian form of idiocy which are the only ones which we have seen of this early stage, and there are also characteristic photographs of infant cretins. There is a very useful chapter on Infant Feeding. Dr. Thomson has, like most authorities, a very poor opinion of the various patent "foods." He insists that till the tenth month, if all goes well, the breast-milk should form the main part of the child's food. In cases where breast feeding is impossible full directions are given for modifying cows' milk in order to make it suitable for the child's use under different circumstances and an adequate account of the most convenient methods for sterilising the milk in the house is given. There is an important section in which a short description is given of the Disorders due to Improper Feeding and their Treatment, including a well illustrated section on Rickets and Scurvy. Dr. Thomson agrees with Dr. Barlow that infantile scurvy is due almost always to feeding on patent foods, condensed milk, or milk which has been subjected to prolonged sterilisation. There is an account of the dosage and of the employment of different drugs in the case of young children. Several appendices which the practitioner will find useful are given—viz., a synopsis of the period of incubation and of the duration of infection in infectious diseases, a formulary of prescriptions and of recipes for the preparation of foods, and directions for the rubbing, &c., of paralysed limbs. The value of the book for reference is increased by a very full index.

It will be seen, therefore, that Dr. Thomson's book does not go over the ground covered by the ordinary text-books but is supplementary to them. It is full of information which every practitioner ought to possess on subjects which are usually found scattered through books, but which he here for the first time finds collected in one volume, and we can strongly recommend it both to students and practitioners. Dr. Thomson is well known to the profession by his careful writings on the subject and the present volume will certainly add to his reputation as an observer and as a teacher.

Cataphoresis or Electric Medicamental Diffusion as applied in Medicine, Surgery, and Dentistry. By WILLIAM JAMES MORTON, M.D. With 76 Figures. New York: American Technical Book Co. 1898. Pp. 267.

THE action of electrical currents in promoting the passage of salts through animal membranes has long been established and some of the applications of this property to medical practice have also been long known. Dr. Morton confers a benefit upon the medical profession by giving us a book in which the subject is treated in a practical way, with descriptions of the apparatus, the methods and the formulæ which the author has found to be the best. He tells us that "since 1853 the peculiar property of the electric current of driving medicines into living tissue has hung suspended in the air, so to speak, and has never been brought down to practical bearings in spite of continuous and ingenious effort on the part of numerous individual experimenters." This book seems to meet the requirements of the case very well for it gives a properly worked-out sketch of the history of cataphoresis and of the work done by previous investigators, and then goes at length into the practical details of the modern modes of application, to the working out of which Dr. Morton has largely contributed. The account of the experiments of Sir B. W. Richardson with solutions of aconite and chloroform for producing local anæsthesia and of the opposition which his work aroused are very interesting. We are told that Richardson was attacked so fiercely that he felt obliged to abandon his experiments.

The production of local anæsthesia by cocaine introduced electrically through the unbroken skin is in some ways the more immediately interesting part of cataphoresis and a considerable part of the book is devoted to its applications in surgery and in dentistry. The easy production of a small area of anæsthesia offers peculiar advantages in dental work. In the United States the use of cataphoresis by dentists seems to be gaining ground and in this country also inquiries are being made into its value by dental surgeons. Dr. Morton states quite confidently that his methods can produce complete local anæsthesia in from four to eight minutes. The subject quite deserves to be taken up by those who are interested in it. The volume is handsomely bound and is printed on thick paper in good type and is an important addition to the literature of medical electricity.

Twentieth Century Practice of Medicine. Edited by T. L. STEDMAN, M.D. Vol. XIII. With 13 Figures. Sampson Low, Marston, and Co. 1898. Pp. 621.

THE present volume begins the Infectious Diseases, but almost two-thirds of it are devoted to introductory articles and the great bulk of the infectious diseases are left over for treatment elsewhere. The first of the four general articles is on Ptomaines, Toxins, and Leucomaines and has been wisely entrusted to Professor V. C. Vaughan, who wrote the kindred article on Food Poisoning in Loomis and Thomson's "Contemporary System of Practical Medicine." After some preliminary remarks, a list of the known ptomaines is given and a brief statement is added as to the conditions under which they are formed and their more important properties. In a clear manner the steps by which specific bacterial toxins have been shown not to be albuminous are gone through or detailed. As the poisons of saprophytic bacteria are generally introduced into the body with food, they are discussed under the heading of Food Poisoning or Bromatotoxismus. Professor Vaughan has, with the help of his classical colleague, Professor F. W. Kelsey, invented a number of new and somewhat lengthy terms for the various kinds of food poisoning: mytilotoxismus (mussel), ichthyotoxismus (fish), kreototoxismus (meat), sitotoxismus (vegetable food), and so forth. The necessity of these terms is not very apparent and it is probable that the simple English terms will be sufficient and will survive. The matter of these sections is, however, in every way most excellent and thoroughly reliable. An account of the poisons of the specific infectious diseases is then given and the article closes with a good summary of our present knowledge on leucomaines.

Professor H. C. Ernst of Harvard contributes an exhaustive article on Infection and Immunity in which the methods and paths of entrance of infection are first considered; some interesting examples are given of the spread of infection by flies and by books. After stating and considering the theories which have been put forward to explain the nature and manner of production of immunity the author proceeds in considerable detail to describe the serum treatment. Our knowledge on the general properties of blood serum, such as its bactericidal, attenuating, antitoxic, immunising powers, are first sketched. The effect of serum treatment on the experimental diseases is then described and its practical uses in human diseases and in snake-bites are epitomised. In conclusion, there is an account of the theory of the protective action of serums.

Water-borne diseases are divided by the late Mr. Ernest Hart and Dr. Solomon Smith into two main groups according as the contaminating substance is living or not. After a brief reference to the first class of diseases a full discussion on the spread of the bacterial diseases, typhoid fever and cholera, is entered upon. In these sections the valuable work done by the late editor of the *British Medical Journal* is fully made use of. In like manner Dr. Dawson Williams brings the results obtained from the elaborate report of the Clinical Society of London into his article on Incubation and Infectiousness in the Acute Specific Diseases, and thus provides a valuable and authoritative article.

After these general and introductory articles, which occupy considerably more than half the volume, we come to the consideration of the individual specific fevers. The first, on Small-pox, is an exhaustive monograph by Dr. J. W. Moore of Dublin. It is well illustrated by charts, cases, and photographs and is evidently the outcome of very extensive research and thoughtful study. From personal experience Dr. Moore speaks well of the red light method of treatment.

Vaccina, which is evidently a mistake for vaccinia, and is probably due to the French term for cow-pox being *vaccine* is the title of Professor Brouardel's (of Paris) article on cow-pox and vaccination. After considerable discussion he sums up in favour of the non-identity of variola and vaccinia. A full description of the normal vaccinal eruption is followed by an account of its anomalies and of the secondary infections which may occur.

The last article in this volume is on Mumps and is contributed by Dr. Salis Comby of Paris, the editor of the *Archives de Médecine des Enfants*. It enters into great detail and should form an admirable source of reference on the subject.

The admirable articles in this instalment fully maintain the international character of the "Twentieth Century Practice of Medicine."

Tablets of Anatomy: Dissectional and Scientific. By THOMAS COOKE, F.R.C.S. Eng., B.A., B.Sc., M.D. Paris, Surgeon to Out-patients, Westminster Hospital, and Lecturer at the School of Anatomy, Physiology, and Surgery; and F. G. HAMILTON COOKE. In Three Parts. Part I.: The Bones. With 230 Illustrations. Pp. 188. Price 7*s.* 6*d.* net. Part II.: Limbs, Abdomen, Pelvis. With 254 Illustrations. Pp. 376. Price 10*s.* 6*d.* Part III.: Head and Neck, Thorax, Brain. With 286 Illustrations. Pp. 420. Price 10*s.* 6*d.* 4to. London: Longmans, Green, and Co. 1898.

MR. COOKE'S Tablets are so well known and we have on so many previous occasions spoken in favour of them that it is almost superfluous to say anything in their praise now. The author has been for many years a most earnest advocate of the importance of careful dissecting for a good knowledge of anatomy, and therefore it goes without saying that his tablets are in no sense intended for "cram," and if properly employed as adjuncts to practical dissection they cannot but help greatly in giving a student such a knowledge of anatomy as will be of use to him, not merely in his examinations in that subject, but also in the study of surgery and in practice itself. The present edition differs from its predecessors chiefly in the large number of illustrations (both coloured and uncoloured) which it contains; these have been culled from a wide area and include very many of those with which we are all familiar in the ordinary text-books of anatomy but which nevertheless help to make clear the statements contained in the text.

LIBRARY TABLE.

A Report on Vaccination and its Results, based on the Evidence taken by the Royal Commission during the Years 1889–1897. Vol. I. The Text of the Commission Report. London: New Sydenham Society. 1898. Annual subscription to the Society, 21*s.*—Many will be glad that the New Sydenham Society should have proceeded to include in its series of publications some account of the labours of the recent Royal Commission on Vaccination. Life is at once too short and too full to permit the majority of our profession to study the six or seven bulky blue-books with their reports of evidence and their voluminous appendices which represent that Commission's work. Yet it would have been a pity had the salient facts elicited during that prolonged inquiry not been made more generally available. This first instalment by the society consists merely of a reprint without note or comment, and we regret to say also without index, of the text of the final report and the report of the dissentients. These documents are historical and are most valuable from the masterly manner in which the whole subject is surveyed in them. It would have added to the interest of the volume had it been prefaced by some account of the reasons for the appointment of the Commission and of the members composing it. We learn from a notice prefixed to this reprint that the New Sydenham Society proposes to include in another volume extracts from the evidence.

A Simple Method of Water Analysis; especially Designed for the Use of Medical Officers of Health. By JOHN C. THRESH, M.D. Vict., D.Sc. Lond., D.P.H. Camb. Second edition, enlarged. London: J. & A. Churchill. 1898. Price 2*s.* 6*d.* — The simple method here described was outlined in an annotation in THE LANCET of Jan. 23rd, 1897. We predicted that medical officers of health would find the method convenient and fairly accurate. We were not mistaken, since Dr. Thresh has found it already necessary to issue a second edition with an additional section on the examination of sewage effluents. The standard of purity adopted in this case is that dependent upon the oxygen-consuming power as shown by permanganate. A better standard is based on the amount of nitrates and a little more stress might have been laid, we think, on the significance of nitrates in sewage effluents. As applied to water analysis we have found the "simple method" very useful in affording a preliminary and reliable indication of the fitness or unfitness of a given water for potable purposes. In the event of the latter conclusion being formed a more elaborate analysis may be carried out. Messrs. Burroughs, Wellcome and Co. supply a neat and portable case containing the necessary reagents in the form of "soloids."

WE wish to draw attention to an announcement of the *Times* reprint of the "Encyclopædia Britannica" which is inserted in this issue of THE LANCET and which may be worth the attention of our readers as affording to those who desire it an opportunity to obtain a well-known work of reference at a great reduction on the price usually charged.

JOURNALS.

The Journal of Physiology. Edited by MICHAEL FOSTER, M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. xxiii. Nos. 1 and 2. London: C. J. Clay and Sons. June 10th, 1898. Price 8*s.*—This part contains the following articles: 1. John Berry Haycraft, M.D., D.Sc. Edin., upon the Production of Rapid Voluntary Movements, with 8 Figures in the text. 2. W. M. Fletcher, M.A., The Survival Respiration of Muscle, with 47 Figures in the text. 3. J. S. Macdonald, Demonstrator, and E. Waymouth Reid, Professor of Physiology in University College, Dundee, N.B., Electromotive Changes in the Phrenic Nerve: A Method of Investigating the Respiratory Centre, with 9 Figures in text. 4. W. B. Warrington, M.D., M.R.C.P. Lond., On the Structural Alterations Observed in Nerve Cells, with 1 Plate and 4 Figures in the text. 5. F. Gowland Hopkins, M.B. Lond., and S. N. Pinkus, Ph.D., Observations on the Crystallisation of Animal Proteids.

THE LANCET.

LONDON: SATURDAY, JULY 23, 1898.

IN THE LANCET of July 2nd we printed a letter from Mr. GEORGE JACKSON, in which he stated that he had addressed to the candidates for the vacancies upon the Council of the Royal College of Surgeons of England certain questions, among others one bearing on the present method by which the representative of the College upon the General Medical Council is chosen by the Council of the College and not by the corporation as a body. It will also be remembered that, as was reported in THE LANCET of June 18th, Mr. R. B. ANDERSON has lately proposed to test by a friendly suit at the expense of the College the legality of the action of the Council of the College in selecting such a representative, he in common with other Fellows and Members of the College considering that a right to exercise a franchise has been and is conferred upon him by the Medical Acts: but Mr. ANDERSON found the Council unwilling to undertake the costs of both sides to the action. We are not prepared, at any rate at the present moment, to express any opinion upon the true meaning of the passage in the Acts upon the wording of which those who take this view are relying, and we strongly counsel Mr. ANDERSON, and those associated with him in the attempt to make good the right of the corporation as a body to choose their representative on the General Medical Council, to abstain from legal subtlety in their arguments. The law of the land must, of course, be administered exactly, but the work of reform does not prosper while it relies upon verbal and technical interpretations, even if those interpretations are correct. No large body of responsible and worthy adherents will be found ready to join in an agitation which trusts for its justification to the rendering of a phrase, while hundreds might join such an agitation in defiance of the wording of all the Acts of Parliament in existence if they could be persuaded that such a course was in accord with justice and expediency.

The representatives of the various universities and corporations upon the General Medical Council are chosen as follows:—

1. The University of Oxford: elective body, Convocation, which consists of every member of the rank of M.A. who has kept his name on the books and duly paid his fees and duties.
2. The University of Cambridge: elective body, the Senate, the constitution of which is practically the same as that of the Convocation of Oxford.
3. The University of London: elective body, the Senate, which consists of the Chancellor, the Vice-Chancellor, and the thirty-six Fellows.
4. The University of Durham: elective body, Convocation on the nomination of the Senate. The constitution of the Senate is the Warden, sundry Professors, the Master of University College, the Principal of Hatfield Hall, and six other members of Convocation. The Convocation is much the same as that of Oxford or the Cambridge Senate.
5. The Victoria University: elective body, the Council, which consists of the Chancellor, Vice-Chancellor, and various other members, of whom only two are even indirectly elected by the Convocation of the University.
6. The University of Edinburgh: elective body, the University Court, consisting of the Rector, the Principal, and three or four assessors appointed by the Chancellor, the Rector, the University Court, and the Senatus Academicus.
7. The Universities of Glasgow, Aberdeen, and St. Andrew's elect in the same manner and under the same constitution as the University of Edinburgh. At Glasgow the University Court includes the Dean of Faculties, an officer elected annually by the Senate.
8. The University of Dublin: elective body, the Provost and Senior Fellows of Trinity College, Dublin.
9. The Royal University of Ireland: elective body, Members of the Senate by open voting. The Senate consists of the Chancellor and thirty-six Members all appointed by the Crown.
10. The Royal College of Physicians of London: elective body, the Fellows sitting in full Comitia.
11. The Royal College of Surgeons of England: elective body, the Council every fifth year. The Council consists of the President, two Vice-Presidents, and twenty-one Fellows.
12. The Apothecaries' Society of London: elective body, the Court of Assistants.
13. The Royal College of Physicians of Edinburgh: elective body, the Fellows in open voting.
14. The Royal College of Surgeons of Edinburgh: elective body, the Fellows.
15. The Faculty of Physicians and Surgeons of Glasgow: elective body, the Fellows.
16. The King and Queen's (now the Royal) College of Physicians of Ireland: elective body, the President and Fellows in annual meeting.
17. The Royal College of Surgeons in Ireland: elective body, the Council, consisting of twenty-one Fellows.
18. The Apothecaries' Hall of Ireland: the representative is elected at the annual meeting of the society.

It will be seen from this list that while the elder universities, such as Oxford and Cambridge, place the voting for a representative upon the General Medical Council in the hands of all members of the universities who are no longer *in statu pupillari*, the younger and more frankly democratic corporations, such as the University of London and the Victoria University, find it advisable to restrict the power of voting for a representative to a much more select body.

From this list, also, it is plain that whatever the corporation of the Royal College of Surgeons of England suffer as a body by the present method of the election of their representative upon the General Medical Council, they suffer it in common with many other bodies—a position of affairs which was, as a matter of fact, taken into account when direct representatives of the medical profession were first elected to the General Medical Council. Perhaps the wording of a charter may give an advantage to one body over another, but the medical profession as a whole are not likely to consider that this would form a good basis upon which to start an agitation for reform. As we have already said such movements only become serious and attract responsible persons when their promoters can prove that justice and expediency as well as the literal right are on their side. For the present let us leave out of consideration the justice of the demand that the Fellows and Members of the Royal College of Surgeons of England should select their own representative on the General Medical Council—an exception which we are able to make in this airy manner in that our readers know that we have unceasingly advocated the claims of the Members and Fellows alike to just treatment in their College and that we shall never disregard justice in these matters because for the moment it seems inopportune to discuss it in the abstract. We come to expediency. It is for those who

desire a change in the existing methods to show that the profession of medicine as well as the Royal College of Surgeons of England would gain by the proposed reform. They must, if they wish for converts, show that the College and the profession are not only aggrieved in this matter but that the grievances will be abated under the suggested innovation. If the Council of the Royal College of Surgeons of England were elected by the College, as it should be, instead of by a small class of the College, the Council would be a proper body to select the representative of the College upon the General Medical Council. But the Council being elected only by the Fellows, who constitute a comparatively small part of the body corporate, its choice of a representative becomes open to criticism. In our opinion all efforts towards the reform of the College should be directed towards making its Council truly representative of the corporation, so that the point upon which MR. ANDERSON desires a legal decision seems to us to be of secondary importance.

THE Executive Committee of the General Medical Council had under consideration several important questions at its meeting on July 12th. For the most part these arose out of resolutions of the Council itself in May last. Perhaps the most important of these had reference to a very much needed amendment of the penal clauses of the Medical Act. All parties in the profession and the General Medical Council itself are agreed that these clauses need amendment. There can be little doubt that the public itself must be of the same opinion with the profession up to a certain point. There may be differences of opinion as to how far such amendments should be carried, and we are well aware that the public are jealous of the restriction of personal liberty even in the case of unscrupulous quacks. But there is practical unanimity that the medical profession should be defined and that the titles which imply medical qualifications and status should be protected. The Council on May 31st last resolved that its President should be requested to communicate with the Lord President of the Privy Council as to the practicability of obtaining such an amendment of the law as would more effectually prevent the holder of any medical degree or diploma from using the title thereof after his name had been erased from the Medical Register under Section 29, and for so long as the erasure continued in force. It seems obvious that a person who has been guilty of professional conduct so gross as to induce the General Medical Council to remove his name from the Register should not be allowed to flaunt before the public titles which convey the impression that he is still on the Register. If ever there was any doubt on this point it must surely have been dispelled by recent events. Within the last few weeks public attention has been directed to the painful case of a graduate of a university who has committed more than one crime and is now sentenced to imprisonment for seven years. By his very situation he is prevented from doing further mischief to HER MAJESTY'S subjects or further dishonour to his university and his profession. His profession has cleared itself of all connexion with him through the act of the General Medical Council in removing his name from the Medical Register. But, strange to say, he still continues to be a graduate of the Royal University of Ireland. There is no reason to believe that the Royal University of Ireland wishes to retain such a graduate on its rolls. Indeed, there is no doubt that all the universities of the country and all the medical corporations are desirous of such an amendment of the law as will prevent a graduate or a diplomate so erased from using his titles *so long as the erasure continues*. We italicise these words as showing the justice and mercy of the bodies and the profession which, through their representatives in the General Medical Council, have with practical unanimity asked for this amendment. There are offences and there are crimes. There are cases in which removal from the Register is only temporary, in which the Council properly exercises its clemency and restores the names which it has erased. In any amendment of the law provision for such restoration of status to the holders of degrees or diplomas should be carefully made. But during the period of erasure the qualifications and the titles attaching to them should clearly be suspended too.

It is somewhat discouraging to find from the words of the reply to the communication of the President contained in the minutes of the Executive Committee that the Lord President of the Council "cannot hold out any hope of legislation being undertaken to effect amendment of one provision of the Medical Act, even if the degree-giving bodies had expressed a desire for the amendment, which does not appear to be the case." The last words of this quotation show that the Lord President is of opinion that the universities at least do not wish for the amendment asked for by the General Medical Council. We feel sure that the Lord President will ascertain exactly the truth in this matter. It cannot be the wish of the universities to have their degrees and titles used by graduates who have discredited them, and, as a matter of fact, as we have said, through their representatives the universities are parties to the communication to the Lord President on this subject from the General Medical Council. We are glad to note that the Executive Committee have not regarded the answer of the Lord President as final and have requested Sir WILLIAM TURNER to put himself into furthe communication with the Clerk of the Privy Council on this matter. The President's own action on the subject has been so careful and judicial—we might almost say cautious—that he may be safely trusted to place before the Lord President the serious aspects of the present defects of the law and the urgent need for its amendment.

The minutes of the Executive Committee show that a communication had been received from the Home Secretary in reference to projected legislation for the regulation of so-called massage establishments at the instigation of one of the vestries of London in whose district such institutions threaten to be a cause of scandal. The Home Secretary seems to have thought that the freedom of the medical profession or its rights might in some way be prejudiced by such legislation and very properly directed the attention of the General Medical Council to it. The Executive Committee have replied that in their opinion the regulation of such establishments is essentially a police question and one in no way affecting the medical profession which does not need them. We feel persuaded that such an answer will have the approval of the profession.

Massage is a very useful thing in its place, but, like every other detail of treatment, it is unduly magnified by those who do not see it in its proper proportions and relation to other means of treatment, and it is clearly being used in many directions for immoral and disgraceful purposes. The medical profession will take its own means of procuring massage for those who need it and the Home Secretary need fear no opposition from the profession or injury to it in legalising any police measures for the punishment and restraint of those who prostitute massage to base purposes.

THE case of KINGSBURY and Another *v.* HOWARD, which came to an end on Tuesday last after a hearing lasting six days, presents many features of interest to medical men. The story has been so widely circulated in the lay press that we need only give its outline here. Dr. KINGSBURY, a medical practitioner at Blackpool, attended assiduously the late Mrs. HOWARD, an old lady who made him a residuary legatee under her will whereby he should benefit to the extent of £30,000 or more. He attempted to hypnotise her in the course of his medical treatment of her on twenty-two occasions, and the will was disputed on the ground that he had exercised undue influence over her, that, in fact, he had "suggested" to her when in the hypnotic state the advisability of making him her legatee. Of evidence that Dr. KINGSBURY had so hypnotised Mrs. HOWARD there was not a scrap, while he denied that he had ever been able to produce any effect upon her in his numerous attempts. It was shown by a will dated before the hypnotic experiments had commenced that Mrs. HOWARD intended to benefit Dr. KINGSBURY, nor was there anything very unnatural in the generous bequest of the deceased to her medical attendant, for Mrs. HOWARD'S only surviving son was already wealthy and was on unfriendly terms with his mother, while Dr. KINGSBURY took nothing until after substantial donations had been set apart for charities. Under these circumstances, as Mr. Justice GORELL BARNES pointed out to the jury in his summing-up, the whole case depended upon whether the jury believed Dr. KINGSBURY'S evidence or not. Dr. KINGSBURY said that he had never hypnotised Mrs. HOWARD, often as he had attempted to do so, and the denial was borne out by Mrs. HOWARD'S confidential servant. The jury found that the will in question, the last of many wills, had been duly executed; that the deceased was of sound mind, memory, and understanding; that she knew and approved its contents; and that the residuary clause under which Dr. KINGSBURY was so large a beneficiary had not been obtained by undue influence. This finding of the jury exonerates Dr. KINGSBURY from the odious charge of having grossly abused the fiduciary position which he occupied towards his patient, and also, to our thinking, inflicts a serious blow upon the claims of hypnotism. The jury arrived at their decision either because they believed Dr. KINGSBURY, who said that he had failed to hypnotise the patient in spite of repeated trials; or because they were unwilling to allow that the power of hypnotic suggestion could be used to sway the testamentary intentions of a sane person; or, most probably, by looking at all the circumstances, from both these points of view. Now Dr. KINGSBURY is an experienced hypnotist who has given exhibition of his powers before assemblies of his fellow practitioners, so that it is damaging to the prestige of hypnotism as a therapeutic agent to learn that so accomplished a professor of the art or science after repeated trials was unable to produce any effect upon an old and sick lady. Again, if the contingency that Mrs. HOWARD might be influenced by hypnotic suggestion so as to deal with her money in what was, after all, no very unnatural manner has seemed incredible to a jury, what would a jury say to the more advanced claims of hypnotism? We have all heard of subjects in the hypnotic state who, though of unblemished character, have cheerfully committed crimes, or rather the simulation of crimes, at the suggestion of the hypnotiser, and experiments with these sensational tendencies have been reported in medical journals and find a place in scientific literature. We do not envy the medical man who is called upon in the witness-box to assist a jury at arriving at a decision upon the credibility of any such situation arising in ordinary life, but we think that he would be quite justified in declining to commit himself to any definite opinion in the present state of our scientific knowledge. And the case of KINGSBURY and Another *v.* HOWARD lends force to our advice.

Annotations.

"Ne quid nimis."

THE VACCINATION BILL: A CHANGE OF FRONT.

ON Tuesday evening the Vaccination Bill was under consideration as amended by the Standing Committee on Law and during the debate Sir Walter Foster proposed a radical amendment. He desired to add after Clause I. a new clause allowing the parent or person in charge of an infant who makes a statutory declaration of conscientious objection to vaccination before two magistrates to be exempt from all proceedings taken with reference to the non-vaccination of the child. The suggested clause practically did away with the compulsory element, so following the spirit of the recommendations of the Royal Commission. Mr. Balfour promised that an amendment should be introduced covering the ground of Sir Walter Foster's proposed clause, believing that every reasonable attempt should be made to get a Vaccination Act which was satisfactory to the sense of the House and not one which was passed by a mere party majority. As a new clause to a Bill cannot be moved when the Bill is in the report stage without notice the debate was adjourned until the Government amendment was formulated. On Wednesday evening Sir Walter Foster withdrew his amendment in favour of the following amendment, which he considered practically identical in principle with his own, and which was moved as a new clause to the Bill by Mr. Chaplin:—

"No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Vaccination Act of 1867 if within four months from the birth of the child he satisfies two justices in petty sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child, and within seven days thereafter delivers to the vaccination officer for the district a certificate by such justices of such conscientious objection."

After some debate had arisen on the wording of the end of

the clause, the clause was added to the Bill. For all practical purposes compulsion has therefore gone by the board.

THE CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH.

RIVALRY in business is generally considered to be a benefit to the public, but it is a question whether the rivalry of the numerous sanitary associations is not of less general advantage than would be their amalgamation. Unity is strength and the multiplication of societies all interested in one art or one science weakens the whole. Even if the obstacles in the way of combination are insuperable an agreement upon certain points would be an advantage. Neither the Sanitary Institute nor the Royal Institute of Public Health holds annual congresses and exhibitions; why not, therefore, have them in alternate years instead of both in the same year? The one undoubtedly detracts from the other, and more than one sanitary authority, confused by the multiple requests to appoint delegates, have decided to send delegates to neither. We have already referred to the congress of the Sanitary Institute which is to be held in Birmingham in the autumn and we have now to direct attention to the congress of the Royal Institute, which will be held in Dublin next month. The President is Sir Charles Cameron, M.D. R.U.I., and the Lord Mayor of Dublin is the Honorary President. The Presidential address will be given in the Examination Hall, Trinity College, at noon on Aug. 18th, and the business of the congress will not conclude until the 23rd. Dr. Grimshaw, C.B., will preside over the Section of Preventive Medicine and Vital Statistics; Professor J. W. Moore over the Section of Chemistry and Meteorology; Mr. C. P. Cotton (Local Government Board) over the Section of Engineering and Building Construction; and Alderman the Right Hon. J. M. Meade, P.C., over the Municipal and Parliamentary Section. There will be conferences of naval and army medical officers, of medical officers of health, of sanitary inspectors, and of veterinarians. An exhibition of sanitary appliances is also being organised. The generous impulse of the local executive, so characteristic of the inhabitants of the Emerald Isle, has provided an unusual round of festivities. Everything indicates that the Congress will be a success and if any further inducement is necessary to attract visitors it will be found in the fact that the world-famed Horse Show will open on the closing day of the Congress.

ARTIFICIAL EYES.

ACCORDING to a German authority people wearing false eyes must be pretty nearly as common as the remainder of the victims collectively whom fate has deprived of a portion of their bodies, be it organ or limb. Every year, we are told, no fewer than 2,000,000 of glass eyes are manufactured in the German Empire and it is, of course, far from probable that the whole of the world's supply should be made in Germany. On the contrary it is stated in *La Médecine Moderne* that a single French firm turns out at least 300,000 glass eyes annually, and that there are several other factories in France the output of which is about the same. How, it will naturally be asked, can this enormous stock be utilised? Glass eyes although essentially brittle are little liable to injury, do not wear out quickly, and are quite independent of the vagaries of fashion. Once suited the owner of a glass eye may make it serve him a considerable time. A writer in the *Journal d'Hygiène* is disposed to regard the oculiform millions as a fantastic creation, seeing that one-eyed people are rare comparatively speaking and that the majority of them do not wear false eyes; but a little consideration should suffice to show the critic that his doubts are not well founded. Like many an objector he assumes the premisses—to wit, that all the eyes are used to replace human losses, whereas most likely false eyes of every description are included in the list. Evidently taxidermists, bird-stuffers, the makers of wax figures, &c., must use an immense quantity, to say nothing of the artists who are responsible for the innumerable army of dolls large and small. Viewed in the light thus thrown upon the matter the 2,000,000 which seemed to be so amazingly beyond the mark dwindle to a mere bagatelle—a mere drop, so to speak, in the ocean of false eyes. In this connexion allusion to the singular fact that it is only the one-eyed who seek to conceal their deficiency by means of a substitute may be permissible. The totally blind never wear false eyes, or if an instance now and then occur it merely serves to prove the rule. In consequence of his æsthetic sense a one-eyed man feels compelled to endure the discomfort which in greater or lesser degree attends upon every foreign body which has obtained lodgment in the human economy, but the man who has lost both his eyes is free from this weakness—his æsthetic sense expired along with his vision.

THE CHELSEA PHYSIC GARDEN.

A REMEMBRANCE of pleasant hours spent at the Apothecaries' Physic Garden at Chelsea is part of the heritage of many of the London medical students of thirty years ago. At that time the diplomas which they usually sought were the Membership of the College of Surgeons and the Licence of the Apothecaries' Society. Medical botany was part of the usual curriculum and some knowledge of the officinal plants named in the British Pharmacopœia was an important matter for the candidate at "the Hall." Every week fresh specimens were sent from Chelsea to Blackfriars. The wary candidate, if well advised, visited the Physic Garden during the week preceding his examination, and he possibly consulted one of the gardeners as to the plants which were at the time in their most characteristic state; he then noted their leading peculiarities, so that he could again recognise or, as it was colloquially called, "spot" the specimens and, by the help of Sir Alfred Garrod's Manual and other text-books, mention the virtues credited to them. Of late years, rightly or wrongly, medical botany has been supplanted by other studies and the Society of Apothecaries has now applied to the Charity Commissioners as to the future regulation of the Chelsea Physic Garden, of which they were trustees under the will of Sir Hans Sloane. The trustees of the London Parochial Charities having offered to maintain the garden for the purposes of botanical study the Charity Commissioners will shortly publish a scheme giving general effect to the proposed change of management.

AN AMERICAN VIEW OF THE ABUSE OF MEDICAL CHARITY.

THE *Yale Medical Journal* for June contains a valuable and suggestive paper on "The Existing Abuse of Medical Charity and How it Can be Remedied,"[1] by Frederick Holme Wiggin, M.D., Visiting Gynæcologist to the New York City Hospital. Dr. Wiggin gives a short history of the origin and growth of the out-patient system and traces it to St. Bartholomew's Hospital, London, where a system of out-door relief was established in 1770, known as the dispensary, the object of which was "the relief of the sick poor without regard to place of abode who are able to visit the hospital, *but unable to pay the expense of a medical attendant at*

[1] The paper was read before the Connecticut Medical Society at New Haven on May 26th, 1898.

home." Philadelphia followed suit in 1788. New York copied Philadelphia in 1790, the promoters being the Medical Society of New York. Dr. Wiggin is indebted for his history and statistics mainly to a recent report of a special committee of the New York State Board of Medical Charities appointed to examine into the method of giving medical relief to the sick poor through dispensaries. The evil has grown ever since and is as bad in New York as it is in London, but the unhealthy development of it dates from 1862. It is interesting to notice Dr. Wiggin's view of this evil development. It began with the establishment of clinics, which were to all intents and purposes dispensaries, where no question was asked concerning the patients' means or residence so long as the case was interesting and the patient was willing to exhibit his disease to students. It ignored territorial considerations of district and social questions and distinctions of wealth. Outdoor departments of hospitals followed and these in turn were followed by dispensaries which aimed at publishing numbers rather than at fine discriminations of the needy. Then the churches entered into competition and had their dispensaries, the main object of which was "not the care of the sick poor, but to increase the number of Church adherents." Now Dr. Wiggin considers it is established that not far from 50 per cent. of all applicants for free medical relief in the larger cities are not persons who require aid. A factor in the case is the physician, with his natural desire to do good and to be generous to those in trouble—a desire sometimes accompanied with a disregard of the rights of those nearest to him. The remedies he finds in the education of the laity, in paying physicians of charitable institutions, and in placing all such institutions under a State Board with a central bureau by which individual cases shall be systematically but considerately investigated. Dr. Wiggin's State Board would correspond somewhat to our idea of a Central Hospital Board. We do not give our approval to any State interference nor are we prepared to endorse a sweeping resolution of the Litchfield County Medical Association of which Dr. Wiggin approves, entirely condemning the acceptance by medical men of all contract relations with lodges, societies, and similar organisations as contrary to all ethical medical principles. We must not be unpractical. We must recognise great organisations of working men. But we must imitate them in our organisation and in demanding suitable terms.

THE LIMITS OF A LANDLORD'S LIABILITY.

A CASE of some importance as bearing on the legal liability of landlords in respect to the sanitary condition of dwellings let to tenants was heard before the Lord Chief Justice at the recent Bristol assizes. The plaintiff (Mr. J. W. North, A.R.A.) claimed damages from his landlord (Mr. Wm. Wyndham) in consequence of defects in the drainage of Beggearnhurst House, Washford, which had been tenanted by Mr. North since 1884. The house was an old one, but no grave cause of complaint arose until 1894 when defects were discovered and on application were supposed to have been made good by defendant's workmen. The work, however, was improperly done, so that sore-throats and other sickness continued to prevail in the household, and in September, 1897, Mr. North lost one of his children from diphtheria. Mr. Brettingham, the medical officer of health of the district, pointed out very serious defects and advised the entire reconstruction of the drainage and the removal of a water-closet situated in the middle of the building. The question at issue was as to how far the landlord was liable for the original faulty construction of the drains and also whether the tenant could claim any compensation in the absence of any specific agreement at the time of entering upon his tenancy. The case was compromised, the defendant consenting to forego one year's rent, each party paying his own costs. The judge informed the jury that if a man took a furnished house the law implied that the house should be reasonably fit for habitation, which included that there was nothing in the state of the drains which would affect the health of the inhabitants. But there was no such understanding implied in the letting of an unfurnished house, and without an expressed undertaking on the part of the landlord the law assumed that the tenant took the premises "for better or worse." In this particular case, much as Mr. North had suffered, there was no evidence that Mr. Wyndham was not ready to do all that he could be reasonably required to do in remedying defects which were pointed out. The moral then to be drawn from this judicial deliverance is that a would-be tenant of an unfurnished house must be careful to obtain from his landlord an agreement or warranty that the dwelling is in a fit state for habitation unless he wishes to run the risk of exposure to the effluvia from ill-constructed drains which may not be discovered until he has been some time in possession. In particular should he be careful when dealing with old houses where the sanitary arrangements may be the reverse of satisfactory and where even cesspits may still exist in close proximity. He must remember that no claim for compensation for damage due to such insanitary conditions will lie unless he has previously guarded his interests in some such manner. Better still would be the insisting as an essential preliminary to his possession of the premises that their sanitary condition should be thoroughly investigated and made good.

RECURRENCE OF TYPHOID FEVER IN CHICHESTER.

CHICHESTER is again suffering from typhoid fever and a number of memorialists are asking for the intervention of the Local Government Board. Just the same took place in the autumn of 1896, when, in answer to appeals from the locality, the Local Government Board instructed Dr. Bulstrode to make an investigation into the matter. The result was a searching investigation and a very able and convincing report. The issue of this report was followed by experiments made at the cost of the State into the nature of Chichester soil as a breeding ground for the typhoid bacillus, with the result that when soil was collected from areas where fever is ever recurring in Chichester it was found that after sterilisation its inoculation with the typhoid organism showed that it contained everything necessary to the persistence of this disease organism in a form potent for mischief. In fact, there are parts of Chichester which are sodden with ancient filth and in which typhoid fever recurs from time to time. The corporation, however, themselves made a report showing that all was *couleur de rose* in their ancient city; that the city had "been grossly misrepresented by foreign officials"; and that the town council was "hampered and annoyed by unnecessary and troublesome interference ..... and unjustifiable intermeddling in local self government." It was not, therefore, likely that they would act on the advice which the central authority tendered through their inspector, and now the same disease prevails again and the inhabitants are appealing against their own rulers and asking for another Government inspection. Some sort of inquiry has apparently been promised, but if it takes place it is to be hoped that it will be of an exhaustive character and that it will take close account of the "local self government" system which has brought about a state of affairs in which a portion of the inhabitants seem to have lost all confidence in those who have the sanitary control of the city. There is, however, one aspect of this state of affairs which must be settled locally. The system of local self government which the town council claims to carry out unhindered involves the election of

councillors by the voters, and if it be really true that the memorialists represent a substantial number of the citizens it will be quite easy for them to show that they mean what they say at the next municipal election. The *Chichester Observer* of July 6th states that "the medical officer has recommended a house-to-house inspection, but the matter proceeds no further." Since it rests with this officer to advise the council as to what is necessary, and since he has the responsibility of determining what are the causes of disease in his district, it is very ominous to find that when he gives his advice "the matter proceeds no further." In view of the present aspect of affairs it may be asked by some why Chichester should receive State aid at which its represen tatives scoff, whilst other districts who would gladly get the advice of independent central experts are often denied that help on the ground of an insufficiency of staff.

THE JUBILEE OF W. G. GRACE.

AT fifty years of age a man's natural force may presumably be supposed to be abating. As medical journalists we are naturally interested in seeing the incomparable "W. G." apparently as well able as ever he was to stand a long day's fielding, to get runs, and to take wickets. The complicated muscular movements and the absolute correspondence of hand and eye which playing sound cricket requires are only to be really appreciated by those who understand anatomy and physiology. We are therefore all the more interested in Mr. Grace's success, for although his fame has been won on other fields than those of the laboratory and the sick room we all remember with pride that he is a member of the profession of medicine and hence we have a double reason for offering our congratulations to one who has shown himself so proficient in every department of the national game.

ENANTHEMATA.

AT the annual meeting of the American Pediatric Society held in Cincinnati in the beginning of June Dr. F. Forchheimer, of Cincinnati, read a paper on what he considered to be a characteristic enanthem of German measles. According to the extract published in *Pediatrics* the enanthem is a macular, distinctly rose-red eruption upon the velum of the palate and the uvula, extending to, but not over, the hard palate. The spots are arranged irregularly, not crescentically, are of the size of large pin-heads, and are very little elevated above the level of the mucous membrane. He studied the eruption in 22 cases. In no case had he seen the exanthem when there was not present a suggestion of the enanthem. The enanthem is very short-lived, fading away within the first 24 hours. It is the same eruption which is found upon the skin, characterised by the size of efflorescence, its arrangement, the absence of great infiltration, and, above all, by its colour, a pure pinky-rose-red, almost exactly the same as the "roseola" of typhoid fever. During the process of involution there are sometimes left pigmented deposits, usually of a yellowish or yellowish-brown colour, either in the form of spots or streaks. The difference between this enanthem and those of scarlet fever and measles is as follows: in scarlet fever the enanthem appears from twelve to twenty-four hours before the eruption. It appears on the pillars of the fauces in the form of characteristic puncta, then rapidly spreads over the mouth in the form of a scarlet-red coalescing eruption, which ends in desquamation, producing the strawberry tongue. In measles the enanthem begins upon the soft palate from thirty-six to forty-eight hours before the exanthem in the form of purplish papules arranged crescentically. Some of the subsequent speakers said that their experience confirmed that of Dr. Forchheimer and Dr. Jacobi made a reference to the enanthem described by Koplik in measles, a report on which was published in a recent number of the *Deutsche Medicinische Wochenschrift*.

THE HAMPSTEAD HEATH EXTENSION SCHEME.

THE Lord Mayor presided on Tuesday over a public meeting at the Mansion House in furtherance of this scheme at which the speakers included the Marquis of Lorne, Lord Knutsford, Sir Samuel Wilks, Lady Jeune, Mr. Seymour Lucas, R.A., Canon Ainger, and Sir Henry Harben. Motions were carried unanimously approving of "the endeavour that is being made to preserve the beauty and extend the area" of Hampstead Heath and calling "upon the public to accord a generous response to the wider appeal that is now being made." Yesterday (Thursday) Sir Henry Harben, chairman of the local committee of the Hampstead Heath Extension Scheme, received a large number of visitors at Golder's Hill during the afternoon, the result of which informal garden-party should be a large accession of subscriptions.

IRREGULAR MEDICAL PRACTITIONERS.

IN the House of Commons on Tuesday last Dr. Farquharson asked the Chancellor of the Exchequer the following question: "Whether, having regard to the fact that a sum of £5000 a year of public money is paid to the Council of the Incorporated Law Society to assist them in purifying the legal profession, he could see his way to make a similar grant to the General Medical Council to enable them to undertake the prosecution of irregular medical practitioners." The Chancellor of the Exchequer said that the sum granted to the Council of the Incorporated Law Society was £2500 and was only a small fraction of the yield from the special duty on solicitors' certificates which went to the Exchequer. No such tax was imposed upon medical practitioners and therefore no question of a similar grant to the General Medical Council arose. Dr. Farquharson must have known that his question would elicit this obvious reply. We hope that he will not be deterred from making further moves in this and other directions towards obtaining for the General Medical Council further powers.

THE X RAYS IN MILITARY SURGERY.

PROFESSOR KÜTTNER of Tübingen, who followed the last Greek war in connexion with the German Red Cross Society, has made some interesting experiments with the Roentgen rays at the Constantinople Hospital. In his report, just issued, he says that while the apparatus proved of service when applied with the screen it was rarely possible to take a satisfactory photograph on account of the difficulty of bringing the patients into the proper position. The former method proved often the only way to ascertain the site of a projectile which had entered the body and had remained there. This was applicable to all parts of the body except the stomach and head. A bullet in the brain, for instance, showed very indistinctly. (Last spring an arrangement of mirrors was exhibited at a soirée of the Royal Institution where a photograph of the brain showed in relief, thus enabling the operator not only to see the foreign body but also to measure correctly its distance from the outer wall of the cranium.) Professor Küttner says it is noteworthy that splinters of bullets and of bone which had penetrated into the soft parts of the body could not be distinguished from each other. Also, he says, it was proved that the opinion that deep-lying masses of pus could be located was erroneous. Injuries to the central nervous system, the spinal cord, and the peripheral nerves were solely ascertainable by the aid of the Roentgen rays. It was impossible

to do this before. Furthermore, it could be seen whether a bone was totally or only partially severed—a matter of great importance as far as therapeutics are concerned. For shot-wounds in the extremities he recommends that a photograph be taken. His conclusion is that the Roentgen rays are of great importance for medical aid in war, but only for fixed hospitals, such as reserve hospitals and those installed in fortresses, while for moving field hospitals their application is very limited.

THE LATE MR. GREIG SMITH.

WE publish this week a clinical lecture from the pen of the late Mr. Greig Smith, whose lamented death last year, at the early age of forty-three years, deprived our profession of one of its ablest members and the Medical School of Bristol of a most competent and energetic teacher. Mr. Greig Smith had accomplished much in his comparatively short career—enough to have satisfied many men—but in the opinion of all who knew him he would have gone much further. The paper which we issue to-day (the illustrations to which have only recently reached our hands) bears evidence to Mr. Greig Smith's lucidity as a teacher and skill as a draughtsman, as well as to the extreme thoroughness of his work.

"THE LESSON OF MIDDLESBROUGH."

IN a letter to an evening journal under the above heading Mr. Alexander Paul claims that the statistical results of the recent epidemic of small-pox at Middlesbrough just issued by Dr. Dingle, medical officer of health, prove that the "case for vaccination" has "utterly broken down." We desire to say nothing to Mr. Paul's discredit. We recognise in him a fair-minded advocate of a hopeless cause, one, too, who has never stooped to the methods of personal defamation which disfigure the writings of most anti-vaccinationists. Honest himself he gives credit for the honesty of his adversaries in pleasing contrast to the spirit of some of his party. We do not therefore wish to pass by his criticisms in silence but to act as fairly by him as he endeavours to do by us. Yet we would have Mr. Paul remember that the bias which he has against vaccination is quite as potent a factor in his conclusions as any bias may be in the other direction. For what is his argument? According to Dr. Dingle, of those attacked by small-pox 1207 had been vaccinated—a proportion of about 1·3 per cent. of the whole vaccinated members of the community; 198 had never been vaccinated—a proportion of about 11·7 per cent. of the unvaccinated population. The fatality-rate amongst the vaccinated was 8·8 per cent.; amongst the unvaccinated 47·4 per cent. Mr. Paul explains these striking divergencies very simply. The small section of Middlesbrough folk who had escaped vaccination were, he avers, more susceptible to small-pox and to fatal attacks not because they had not been vaccinated (for that is a useless rite), but because they are made up of the "leavings" of the population—the weakly infants, the neglected and the tramp class. Otherwise, he says, it is not credible that nearly one-half of those attacked should have died. This "pure assumption," to use his own phrase in another connexion, is, we suspect, but half a truth, for it cannot apply to places where the majority of the children are unvaccinated and yet they have died (strong and weak alike) in similar proportion when attacked by small-pox. There is no fixed fatality-rate for small-pox or any other epidemic disease; it varies from time to time and from place to place, and though we may admit that 47·4 is excessively high we suspect that in pre-vaccination days it was often just as high amongst the parallel class. But why does Mr. Paul ignore the comparative incidence and fatality amongst the vaccinated and the unvaccinated at similar age-periods? Why does he suppress the evidence adduced as to the comparative severity of attacks in the two classes? Lastly, why does he contemptuously dismiss the explanations frankly given by Dr. Dingle as to the failure of revaccination to protect in all cases? He writes as if he were impartial, but his tone is that of the advocate, not of the judge. The case for vaccination must depend upon the fulfilment of those conditions which point to its being effectively carried out. The anti-vaccinationist naturally ignores all this, for to him vaccination is nothing but a "filthy rite." But no one who approaches the subject with as much freedom from bias as is possible to fallible humanity can arrive at any other conclusion than the one which was attained by the Royal Commission, which is forced upon all who have personal knowledge of small-pox and is proved by the experience of every civilised nation in the world.

THE EXPENDITURE OF THE METROPOLITAN ASYLUMS BOARD.

DR. FARQUHARSON deserves the thanks of the profession, and still more of the public, for his question on this subject in the House of Commons. The reply of Mr. Chaplin is very satisfactory and shows that he at least has not been an unmindful spectator of the financial irregularities which have been brought to light partially in the Brook Hospital case, but which are perhaps not confined to that case. It would be lamentable indeed if the Local Government Board could be supposed to be careless in this matter in which it has such enormous responsibilities. Mr. Chaplin rather invited Dr. Farquharson to move for further returns which doubtless Dr. Farquharson will ask for. The public is almost helpless in such matters. It knows nothing of the cost of hospitals or of their administration. There is nothing in such a question to excite the interest of parties or of party leaders who are apt to spend public money recklessly. But unless local government and those who administer it are to be discredited we must take it out of the hands of architects and those who see nothing in it so much as a boundless and unchecked means of spending public money.

HOT WEATHER DANGERS.

"TO-DAY is the hottest day experienced in London this year, the thermometer registering 86° F. in the shade, and numerous cases of sunstroke are reported." Such was the announcement made in several evening papers on Monday last, the 18th. In the papers of the next morning (the 19th) it was announced that a serious explosion had occurred at the Earl's-court Exhibition on the afternoon of the 18th in connexion with a magazine in which various explosives used in the miniature naval battle were stored. There can be little question, we think, that the first observation throws light on the occurrence of the accident in which unfortunately life was lost and several employés were injured. It is certain that amongst the stored explosives would be some containing nitro-compounds of the class of nitro-glycerine. Under the influence of higher temperatures the fluidity of nitro-glycerine would be very materially increased and nitro-glycerine is infinitely more dangerous in the liquid form than in the solid. Dynamite is a porous earth containing nitro-glycerine which affords a comparatively safe way of carrying and storing the explosive, but when exposed to variations of temperature in the upward direction the oil would probably exude and become dangerous. Thus the slow exudation of the nitro-glycerine is a serious danger because it tends to substitute pure nitro-glycerine for a substance which is but little sensitive to shocks or friction, while the former is, on the

contrary, extremely sensitive. Direct sunlight is also bad for nitro-compounds as it often leads to their chemical decomposition and to spontaneous explosion. The places or magazines where explosives are stored should therefore be kept cool and in a sheltered spot. It would not be surprising to learn that this was not the case in the unfortunate disaster which happened at Earl's Court. An official inquiry, however, will probably clear up this point.

"THIS HILL IS DANGEROUS."

A STORY of distinctly emerald tinge is related in last week's *Bicycling News*. An English cyclist touring in Ireland came upon a steep descent, but looked in vain for the familiar notice-board indicating danger. Dismounting he wheeled his machine down and right at the bottom of the hill he discovered the missing notice-board, "This Hill is Dangerous to Cyclists." We are not sure whether the man who erected the notice-board is a humourist or some voluntary Ixion with a dilated heart, the penalty of a disinclination to leave his wheel and walk up-hill. It is perhaps a debateable question whether for the benefit of middle-aged cyclists all danger boards should not be placed at the bottom of the hills to which they refer. No doubt there would be more broken necks, but on the other hand there might be fewer over-stretched hearts.

THE LATE GEORGE VERNON BLUNT, M.D. ABERD.

THE will of the late Dr. George Vernon Blunt has recently been proved in the Birmingham district registry at the sum of £43,085, which is considerably more than a medical man, as a rule, has it in his power to leave. The estate is to be kept intact for a period of twenty-one years and certain annuities are to be paid out of the income while the surplus income is to accumulate. After the annuities are satisfied the estate is to be divided, according to the *Birmingham Gazette*, as follows:—

	£
The Blue Coat School, Birmingham	3000
The General Institution for the Blind, Carpenter-road, Birmingham	1000
The Royal Institution for Deaf and Dumb Children, Church-road, Birmingham	1000
The Gordon Boys' Home, Cobham	5000
Mr. Barnardo's Homes, Stepney	6000
The Royal Orphan Asylum for Orphans of Soldiers, Sailors, and Marines at Devonport	5000
The Royal Cambridge Asylum for Soldiers' Widows, Kingston-on-Thames	5000
The Free Cancer Hospital, Brompton, to found two beds	3000
The Royal National Lifeboat Institution, for building and equipping two lifeboats and stations	6000
And the residue to the Shipwrecked Fishermen and Mariners' Royal Benevolent Society.	

The selection of charities is, we think, very catholic and one with which no one will quarrel, for there is hardly any form of infirmity or distress which does not benefit by the bequests.

ABSCESS OF THE BRAIN.

A CASE illustrating the difficulties and uncertainties attending upon operations for cerebral abscess was described at the December meeting of the New York Neurological Society by Dr. F. Peterson. The patient had attempted suicide and wounded his head with a rusty spike and had sustained a compound depressed fracture in the occipital region near the middle line on the right side. He was trephined and the depressed bone was removed. The dura mater seemed to have escaped injury and was left untouched. The wound became infected, but no symptoms appeared for two weeks after the operation. He then gradually developed, in the course of twenty-four hours, left-sided paralysis with hemianæsthesia. The mental condition was clear and there was no aphasia. The temporal half of the field of vision of the left eye was lost; the right is said to have seemed normal. The fundus was slightly clouded. It was thought that there was an abscess deeply situated in the region of the posterior limb of the internal capsule and two days later an exploring needle was introduced and an abscess was evacuated and drained. The anæsthesia disappeared and the patient moved his left hand, but a few days later he suddenly became worse and died. An abscess of the size of a hen's egg was found deeply situated in the right hemisphere, but from the report it is not clear whether this was another abscess or merely a reaccumulation in the cavity which had been emptied. One curious and interesting symptom was the occurrence of blindness of the temporal half of the visual field of the left eye without any apparent involvement of the visual field of the right eye, and if the abscess found post mortem was another collection of pus, the case illustrates the fact that intra-cranial abscess is not infrequently multiple.

THE ROYAL MEDICAL BENEVOLENT COLLEGE.

THE forty-fifth annual report of the Royal Medical Benevolent College, which provides pensions for aged medical men and the widows of medical men in reduced circumstances, with a school open to all classes but offering special advantages to the sons of medical men, 50 of whom are Foundation scholars, has recently been issued. Though the year has been one of great anxiety in consequence of large but necessary expenses there is a small credit balance. This is satisfactory, but funds are urgently needed and unless increased support is forthcoming the College will be seriously impeded in both sides of its work. It should be borne in mind that "it is not only a benevolent society giving help to the aged and the disabled, and doing inestimable good to the children of those medical men who, from death or other misfortunes, have been unable to provide for their families but it is also a great educational institution, by which the whole profession is benefited; and as such it is entitled to the support, in the first place of medical men, and afterwards of all those who are sensible of their obligations to the medical profession." It is also important to notice that while the expenditure of the benevolent side of the institution is considerably over £6000 a year, the amount received from annual subscriptions is under £3500. The office of the College is at 37, Soho-square, London, W.

A MEDICAL CLEARING-HOUSE.

THE *Manchester City News* of July 16th publishes an article from a correspondent dealing with a project well worthy of consideration by any town which is not so unwieldy in size as London. The writer recalls attention to the fact that many of the Manchester hospitals have their out-patient departments separated from the main building by a distance of, in one instance at least, some miles. Manchester is about to build a new infirmary and the scheme suggested is one to run concurrently with the building scheme. The writer proposes to "erect a building in the centre of the city, on a site to be determined later, which will accommodate all the out-departments of the various hospitals and infirmaries. Each of these sections would be under the care of the same distinguished specialists who are now on the staffs of the various special hospitals, and a small number of beds should be provided for emergency cases. It would, in short, be made the medical clearing-house of Manchester." We cannot but think that this scheme offers certain advantages over the system at present existing in Manchester. For a hospital to have its wards separated from its out-patient department by a distance of over a mile involves an enormous waste of energy of various kinds, principally of labour and money. Another great advantage, as the correspondent of the *Manchester City News* points out, would be the remarkable facilities for teaching

which such a building would afford, for the mass of clinical material gathered together would be enormous. In the case of London we imagine that such a scheme is not necessary, for in no one of the hospitals so far as we know is the out-patient department distant from the main body more than a few yards; but even were the conditions in London on a par with those of Manchester as regards this point the distances in London are far too great to enable the plan to succeed, and no one building could ever provide for the crowds of out-patients who flock to a London hospital. However, it may be feasible in Manchester, and at any rate the proposal is worth serious consideration.

HEROISM WITH RISK.

THE gallant action of Surgeon-Lieutenant J. H. Hugo of the Malakand Field Force will be fresh in our readers' memory, but none the less we may recapitulate the main facts. A brother officer had been hit by a bullet which cut the axillary artery. Surgeon-Lieutenant Hugo came to his aid and having recognised the injury by the light of a match compressed the vessel between his finger and thumb and held on to it under fire for three hours. When the enemy broke into the camp Surgeon-Lieutenant Hugo picked up the patient and carried him into a place of safety. For this act of bravery Surgeon-Lieutenant Hugo has, we are glad to say, been awarded the Distinguished Service Order. It is no light task even in a quiet room to hold on to an artery for three hours, or even for one, knowing that a man's life depends on the grasp not slipping. To do so with bullets flying all round adds an element calculated to make the task infinitely heavier. The Royal Army Medical Corps and the whole profession may well be proud of Lieutenant Hugo (to give him his present title).

DR. WATT BLACK, after a service of close on 30 years, has resigned the appointment of Obstetric Physician to Charing-cross Hospital and the Council have appointed Dr. Amand Routh to succeed him.

SIR WILLIAM HENRY BROADBENT, Bart., has been appointed one of Her Majesty's Physicians Extraordinary in the room of the late Sir Richard Quain.

THE ACCIDENT TO THE PRINCE OF WALES.

THE profession will have heard with regret that His Royal Highness, during his recent visit to Baron Ferdinand de Rothschild, in descending the staircase at the Manor House, Waddesdon, slipped and fractured his patella. It was at first thought that the injury was less serious, but on the Prince reaching London and being examined by Sir William Mac Cormac and Sir Francis Laking it was found that a fracture had unfortunately occurred. The leg affected is the same one in which many years ago after his severe attack of typhoid fever phlebitis ensued. The accident, as our readers are aware, though troublesome and somewhat tedious in its cure, is fortunately not in any way dangerous to life. It may be interesting to recall its mode of causation. In walking along, sometimes in ascending or descending stairs, the foot slips and the weight of the body forcibly bends the knee; to prevent a fall the quadriceps extensor muscle in the front of the thigh makes a sudden and violent contraction; the strain on the patella, resting as it does on the condyles of the femur, is too great and the bone breaks through the excessive energy of the muscular contraction. Immediately the patella gives way the continued action of the muscle draws the upper fragment away from the lower and an obvious gap is felt between the two pieces. All power to extend the leg is at once lost and the only result of attempts to do so is to increase the distance between the fragments. The fracture always opens into the knee-joint and pain and swelling soon follow from the exudation into the articulation. The difficulties in the way of treatment are many and various and some permanent weakness of the injured joint is not unlikely to result. With care, however, and with time much may be done to ensure a firm union; but whatever treatment be adopted the sufferer must exercise patience if he is desirous of having a limb as strong as before the accident occurred. The fracture is certainly more common in men than in women, probably because it is produced by muscular action; it is almost unknown in children; and it is most frequently met with in the middle period of life, rarely indeed being seen in old age.

The treatment in the Prince of Wales's case will doubtless be the one usually adopted, that is, confidence will be placed in splinting, bandaging, &c.—to secure union in a good position. We understand that the alternative question of operation—i.e., of opening the knee-joint and wiring together the fragments of the patella—has had the fullest and most anxious consideration by the medical attendants, who, after careful weighing of all the circumstances of the case, have decided against it. Lord Lister, who was subsequently called in and whose authority in such matters is indisputable, fully endorsed this view of the matter and the favourable position of the fractured ends of the bone as disclosed on Thursday morning goes far to justify the decision. On that morning at a consultation held at Marlborough House between Lord Lister, Sir William Mac Cormac, Sir Thomas Smith, and Sir Francis Laking a very careful examination was made of the precise state of the fracture. The treatment carried out so far was found to have greatly improved the position of the fragments at the seat of the fracture, and the progress made is all that can be desired in the time which has elapsed since the injury. Lord Lister expressed himself as very much pleased with the progress made and is perfectly satisfied that the right course of treatment is being adopted.

Sir William Mac Cormac has handed us the following report for publication:—

"In consequence of the wide-spread interest taken and the sympathy shown for H.R.H. the Prince of Wales in his recent unfortunate mishap, His Royal Highness, with characteristic consideration for the wishes of those who desire authentic information as to the nature of the injury, has sanctioned the following statement: On Monday morning, July 18th, while coming down the spiral staircase at Waddesdon Manor he missed his footing and in the sudden severe effort made to save himself from falling sustained a fracture of the left patella. On examination it was found that the line of fracture was nearly transverse and close to the upper margin of the patella. About one fifth of the bone, somewhat crescentic in shape, was torn away along with the tendinous insertion of the quadriceps extensor and the gap between the fragments amounted to a little more than 2 in. The joint was distended with blood. Means were adopted to immobilise the limb, bring down the upper fragment, and to prevent tilting. This has proved so far successful that upon examination to-day (Thursday) it was found that the interval between the fragments was greatly diminished, not being now more than a quarter of an inch, and the effusion in the joint is lessened considerably. The condition of the illustrious patient is in other respects most satisfactory, and he is bearing the enforced restraint with exemplary patience and good temper."

His Royal Highness will have the sympathy of the profession during the necessary but irksome period of rest to which he will be subjected and their earnest wishes for his speedy recovery.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirtieth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Monday, July 18th. With the exception of the Right Hon. William Mellor all the Commissioners were present. The first part of the sitting was occupied in taking the evidence of Mr. Henry Weeden, vice-chairman of the Ilford Urban District Council. Mr. Frederick George Banbury, M.P., a trustee and manager of the Stock Exchange, then explained a scheme of purchase of the London water companies' undertakings which in his opinion would not increase the rates now paid by consumers and would give the consumer free of cost any possible future increase of profit. Mr. Allen Stoneham, the auditor appointed by the Local Government Board to examine the water companies' accounts, next gave evidence. The latter part of the sitting was occupied by the examination of Mr. Reginald E. Middleton, who gave evidence on behalf of some of the water companies.

Mr. WEEDEN, in answer to the CHAIRMAN, said that the inhabitants in the area of the Ilford Urban District Council obtained their water-supply partly from the East London Waterworks Company and partly from the South Essex Waterworks Company. The district was divided into two distinct areas and there was no competition between the companies. The witness said that the council which he represented were satisfied with the charges made by the East London Waterworks Company and with the quality and the quantity of the water they supplied. The charges made by the South Essex Company were higher than those made by the East London Waterworks Company and the people were not so well satisfied with the quantity and quality of the water supplied to them by the provincial company. There were, in fact, frequent and bitter complaints made with regard to the charges levied by the company. The council which he represented wished to have power either to buy up those parts of the East London Company's works which were in their district and to compete with the South Essex Company, or if the London County Council were authorised by Parliament to buy up the East London Waterworks Company's undertakings they thought that they should be supplied with water in bulk in sufficient quantity to enable them to distribute it in competition with the South Essex Water Company.

In answer to the CHAIRMAN the witness said that applications had been made to the East London Company to supply that part of their district which is now in the area of the South Essex Company and the East London Company had declined to do so.

Mr. DE BOCK PORTER suggested that possibly the East London Waterworks Company were bound by an agreement with the South Essex Company not to supply any water in their district.

In answer to the CHAIRMAN the witness said that no agreement had been made with the London County Council that the Ilford district should have a large increase of water should the East London Company's undertakings be bought by that body.

The CHAIRMAN, referring to the Metropolitan Water Act of 1897, suggested that it applied to the whole of the authorised area of the East London Waterworks Company, and that under this Act the people of Ilford could obtain a constant supply of water, which they have not at present.

Mr. FREDERICK GEORGE BANBURY, M.P., in answer to the CHAIRMAN, said that he was a trustee and manager of the London Stock Exchange. He suggested that in case of purchase of the metropolitan water companies' undertakings the scheme which he submitted would not increase the rates now paid by the consumers and would give to the consumers any increase of profits which might accrue to them under the new management. He suggested that Parliament should create a small statutory central body and that this body should be authorised to create a 3 per cent. perpetual water stock secured on the water rents. The new stock should be made transferable at the Bank of England and trustees should be entitled to invest in it. Each shareholder and debenture-holder in the undertakings of the present metropolitan water companies should receive a sufficient amount of the new water stock to yield to him the same amount of dividend that he is now receiving. One advantage of this scheme was that the purchasing authority would not require to raise any more money than the companies are now raising for new works, if the undertakings were, under the new management, carried on as economically as they are by the present companies. Under the proposed arrangement also all saving in expenses which might arise from the amalgamation of the eight companies would accrue to the water consumers. If it should happen that the profits of the amalgamated undertakings continued to increase as those of the water companies had done in the past, these profits would go to the consumers who would have paid nothing for them. If, again, the profits remained stationary the water consumers would be in the same position in which they are at the present time. Under his scheme nothing was to be paid to the water companies' shareholders for these compulsory changes. In the opinion of the witness this arrangement would be fair to the shareholders as they would gain by the increased value which would be given to their stock by the consolidation of the undertakings and by the fact that trustees were allowed to invest in the new water stock. The advantage of this scheme to the consumer was that the companies' undertakings would be purchased for him for the price he is now paying and he would obtain the advantage of any saving which might be made under the new management and any future increase in revenue which might accrue. The newly constituted water board should receive power to raise money for extending the water undertakings as London increased and judging from past experience this extension would be a source of profit. The companies had during the last twenty years considerably increased their capital and their dividends had also increased considerably. In the opinion of the witness purchase on the basis of the dividend now paid was the only satisfactory method. For some years past each company has been compelled to have its accounts examined by a Government auditor, so that no "tampering with" the dividend was possible, whereas, on the other hand, it is impossible to ascertain the true capital value of such an undertaking. At the present time on the Stock Exchange the market for water companies' stock is small and is not a true criterion of the real value of the stock. The market value of a water company's stock can be easily manipulated. No manipulation is possible in the case of a water company's dividend. Under the scheme which he suggested no new capital would have to be raised by the London ratepayers. This was a very great advantage, for the raising of thirty or forty millions would necessarily affect the money market. If the London County Council were to attempt to raise so large a sum they would not be able to obtain it on terms so advantageous as those on which they were able to raise smaller sums. The scheme he suggested would also supply a growing and long felt want—namely, good trustee securities. With regard to the composition of the new water board—the statutory body which he suggested should be formed to carry out the purchases—the witness suggested that the body should be selected somewhat on the same lines as the Council of India, and it should consist of nine or ten paid members who should be appointed because of their fitness to undertake the management and administration of water supplies.

In answer to the CHAIRMAN the witness said that the new authority should have power to arrange as to what amount of water rent should be paid by the consumers.

In answer to Mr. CRIPPS, Q.C., the witness said that he thought the shareholders of the water companies would be very silly if they did not accept the scheme which he had submitted. It would be a good bargain for them. In the case of purchase on the lines he suggested it was true that a good company would obtain less advantage than a bad company if there were such a thing. In the case, for example, of the West Middlesex Waterworks Company the full authorised amount of water rent was not charged because the company was able to pay full dividends without doing so. Still the shareholders of that company would gain by the proposed alteration because they would have a more marketable stock, and one which could be purchased by trustees. Those companies which were on a less satisfactory financial basis would doubtless gain more than the West Middlesex Company would do by the changes. The witness, however, thought that purchase by arbitration would not be a good thing because it would add materially to the cost of transfer. Although nothing was given under

his scheme by way of compensation for compulsory purchase the present holders of water companies' stock would gain largely in capital value. At the present time trustee securities were very scarce.

In answer to Sir JOHN DORINGTON the witness said that a 3 per cent. trustee stock at the present time was worth about £115. He thought, however, 3 per cent. was the best amount to arrange for the new water stockholders to receive. Water consumers would obtain the future profits of the undertakings. The witness was opposed to the purchase of the water companies' undertakings by the London County Council. "The City had not much faith in the business capacities of the London County Council."

In answer to Mr. ROBERT LEWIS, who asked whether it would not be possible to make the stock terminable by periodical drawings, the witness said that such an arrangement would not do at all. It was essential that the new water stock should be a "trustee stock."

In answer to the CHAIRMAN the witness said that he thought that the shareholders of the London water companies would consent to the scheme he had suggested, that it would be a great advantage to the shareholders, and as both the parties chiefly interested would profit it was not necessary to pay any attention to the wishes of the London County Council. People objected to purchase by the London County Council, but they would not object to the management being in the hands of a central board.

In answer to Mr. DE BOCK PORTER the witness pointed out that the reason why the present shareholders of the companies' undertakings would benefit was that at the present time there was very little market in the water stocks. Buying water stocks was a matter of negotiation and a jobber would not "make a price." The consolidated water stocks would be readily marketable.

With regard to the proposed new water board Sir JOHN DORINGTON asked the witness whether he considered that a body of experts would manage the business better than an amateur body. The witness asked Sir John Dorington whether that was not his experience and admitted that for his own part he had found that things which required special knowledge were not best managed by amateurs. The witness thought that local authorities should retain the powers which they at present possess with regard to control of the water-supply.

The CHAIRMAN pointed out that in the case of purchase by the London County Council they had been distinctly told by the chairman of the water committee of that body that "the representatives of the people" would not require any control whatever.

In answer to the CHAIRMAN the witness said that he did not believe that there was any "cry" in favour of purchase of the water companies by municipal authorities. Lord Farrer, formerly one of the chief supporters of that policy, had changed his mind on the subject.

In answer to Mr. POPE, Q.C., the witness pointed out that the present owners of water stock would gain an enormous advantage by having a free market in their stocks and from the fact that they would become trustee stocks, a thing which perhaps "the lay mind," if he might say so, might fail to grasp at once.

In answer to Mr. CRIPPS, the Parliamentary agent of the London County Council, the witness said that he was not a holder of any water stocks and that the scheme which he had submitted was his own. The cause of one of the East London water famines was due to the opposition of the London County Council to the East London Waterworks Company's Bill for the enlarging of the reservoirs. This statement Mr. CRIPPS denied. Mr. PEMBER, Q.C., loudly re-asserted it and the CHAIRMAN said the matter did not concern the Commissioners and the Commission could not be made a draught house for the dispute.

Mr. ALLEN STONEHAM, the auditor appointed by the Local Government Board under the Metropolis Water Act of 1871 to audit the accounts of the metropolitan water companies, explained the system on which he examined the accounts. In answer to the CHAIRMAN the witness explained that according to the Act of Parliament under which he worked the accounts of the companies were examined from the years 1864 or 1869. When he took over the audit he had necessarily to accept the capital account as given by the metropolitan water companies. In some cases doubtless the capital represented obsolete works. He had been forced on more than one occasion to go to arbitration with regard to the accounts submitted by the metropolitan water companies. On one occasion, for example, there was a question as to the place in which the amount received for the sale of property belonging to the New River Company should be put, whether it should be considered as capital or as interest. In this case the decision given by the present Lord Chancellor was in favour of the company. The witness pointed out that he was not an engineer, that he had no right to visit the companies' properties, and that of course he could not tell whether the engines were worn out or not.

In answer to Mr. DE BOCK PORTER the witness said that the companies did not write off anything for depreciation.

In answer to the CHAIRMAN the witness said that with regard to the amount paid for engines he had, of course, to trust that the directors paid the right amount and that the sums paid were correctly given in the accounts submitted to him. In case the witness required counsel's opinion he had to pay for it himself. He had applied on one occasion to the Board of Trade for expenses which he had paid out of his own pocket and the Board declined to pay those expenses. In one case in which he felt compelled to go to arbitration Sir Henry James, who was the arbitrator, had "acted as counsel" for him. In that case Sir Henry James was arbitrator and "counsel"—that is to say, he told the witness he would do what he could to assist him.

The CHAIRMAN asked whether in this case Sir Henry James was arguing the case "to himself." The witness said that this was the fact and that the Solicitor-General was against him. The Act under which he was appointed made no provision for any legal expenses to be paid by the witness.

In answer to Mr. PEMBER, Q.C., the witness said that although the money paid to him by way of remuneration for his services was as a matter of fact found by the companies it was collected, apportioned, and paid by the Local Government Board.

In reply to Mr. CRIPPS, the Parliamentary agent of the London County Council, the witness said that the West Middlesex Company got rid of some of their surplus profits by giving gratuities to clerks and officials. With regard to the general question of what was capital expenditure, when the witness objected to any particular item occasionally the companies gave way and occasionally he gave way.

Mr. REGINALD E. MIDDLETON, who gave evidence on behalf of some of the metropolitan water companies, said he was a civil engineer, a Member of the Institution of Civil

Estimate of the cost for the construction of five reservoirs to hold a total quantity of 18,000 million gallons and to afford a supply of 123½ million gallons a day.

	£	£
Storage capacity of 18,000 million gallons, at £155 per million gallons stored		2,790,000
Aqueduct, buildings, pipes, land, fences, &c., for the delivery (along with the aqueduct already authorised) of 270 million gallons daily		908,816
Cost of pumping mains		80,000
Cost of pumping machinery to pump to *store*		153,592
Cost of pumping power *for supply*, 9000 p.h.p. at £45 per p.h.p.		405,000
Total capital cost		4,337,408
Cost of pumping *to store*, during 20 years, at a cost of 7s. 6d. per million gallons ...	£ 201,924	
Cost of pumping *to supply*, during 20 years, a quantity increasing from *nil* to 123½ million gallons daily, at £2·41 per million gallons actually pumped	1,037,930	
		1,239,854
		5,577,262

Cost of bringing 123½ million gallons from Wales to London, calculated by analogy from the cost of the Thirlmere, Vyrnwy, and Elan Valley works.

YRFON RESERVOIR.	£
Cost of storage for the delivery of 123½ million gallons daily and for 81 miles of pipe-lines and conduit at an average cost of £91,611 per million gallons of daily supply	11,313,968
Add for an average of 81 miles of conduit beyond that in the Thirlmere, Vyrnwy, and Elan Valley schemes to convey 215 million gallons daily at £64 000 per mile	5,184,000
Add for service reservoirs and filters at Elstree	1,314,750
Add for mains between service reservoirs at Elstree and the service reservoirs of the companies	3,000,000
Cost of pumping machinery to pump to supply 30 million gallons daily, equal to 2,184 p.h.p., at £45 per p.h.p ...	98,280
Total capital cost	21,910,988
Cost of pumping to supply during 20 years a quantity increasing from 21·7 to 29·8 million gallons at 30*s.* per million gallons pumped	279,549
	21,190,537

Engineers, of the Institution of Mechanical Engineers, Fellow of the Surveyors' Institute, Member of the Sanitary Institute, and Fellow of the Royal Meteorological Society. He was Assistant Commissioner to the Royal Commission of which Lord Balfour was chairman. The witness handed in a printed statement of considerable length some of which bore upon the evidence which was given by Sir Alexander Binnie. The tables were, however, not drawn up on exactly the same lines and the CHAIRMAN remarked that it seemed to be a pleasure to scientific gentlemen to introduce changes. These changes did not facilitate a comparison between the statements which had been put in by Sir Alexander Binnie and those of the present witness, who was asked to submit a table at the next meeting which could be more easily compared with those given by Sir Alexander Binnie. There were, however, two tables which the Chairman considered of sufficient importance to go on the notes. Of these tables one referred to the Thames storage reservoirs and the other to the cost of the work necessary for bringing a supply of water from Wales. These tables should be compared with those given by Sir Alexander Binnie which have already been published in THE LANCET.[1]

The next sitting of the Royal Commissioners will be held at the Guildhall, Westminster, on Monday next, July 25th, at 12 midday. It is hoped that after Monday next there will be an adjournment until some date, not yet fixed, in November.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

QUARTERLY MEETING OF COUNCIL.

A QUARTERLY MEETING of the Council was held on July 14th, the President, Sir WILLIAM MAC CORMAC, Bart., being in the chair.

The PRESIDENT reported the result of the election of members of Council, as published in THE LANCET of July 9th, p. 114, and Mr. Richardson Cross, Mr. Morris, and Mr. Langton were introduced, made the declaration in the terms of the oath prescribed by the Charter of 1800, and took their seats as members of the Council.

The SECRETARY reported the death, at the age of eighty-one years, of Mr. Henry Lee, a past-member of the Council, and the Council recorded their deep regret at the death of Mr. Henry Lee whom they greatly esteemed both as a colleague and as a member of the profession and expressed their very sincere sympathy with his widow and family in their bereavement.

The Council approved of a sum of money being expended upon a series of drawings illustrating the pathogenic bacteria of man.

A report of the Committee of Management was approved: it was to the effect that, as already approved by the Royal College of Physicians of London, candidates for the second examination should be required to dissect for twelve months after having received the instruction necessary for admission to Parts I. and III. of the first examination.

The Council (on the recommendation of the Nomination Committee) made the following appointments:—

Hunterian Professors: Mr. Leonard Erskine Hill (subject: Researches on the Influence of Gravity on the Circulation); Mr. Frederick Gymer Parsons (subject: Joints of Mammals contrasted with those of Man); and Mr. Charles Stewart (subject not determined). *Arris and Gale Lecturer:* Mr. Berkeley G. A. Moynihan (subject: The Anatomy and Surgery of the Peritoneal Fossæ). *Erasmus Wilson Lecturer:* Dr. Thomas Grigor Brodie (subject: The Chemical Pathology of some Infective Diseases).

Mr. Rickman J. Godlee was re-elected a member of the Court of Examiners and Mr. J. Howard Mummery was elected a member of the Board of Examiners in Dental Surgery.

A letter was read from Mr. Thomas Bryant reporting the proceedings of the General Medical Council at their late session, and the best thanks of the Council were given to Mr. Bryant for his services as the representative of the College on the General Medical Council.

A letter was read from the Metropolitan Counties Branch of the British Medical Association thanking the Council for allowing the branch to hold a conversazione at the College in June last.

Mr. Bryant was nominated as representative of the College on the Council of the Queen Victoria's Jubilee Institute for Nurses.

The PRESIDENT reported that the required quorum was not present on July 7th when a meeting of Fellows had been called and therefore no meeting was held.

Mr. Thomas Cooke's school was recognised for the ensuing year.

As already reported in THE LANCET, Sir William Mac Cormac, Bart., was re-elected President and Mr. T. Pickering Pick and Mr. Howard Marsh were appointed Vice-presidents. Mr. S. G. Shattock was re-elected pathological curator.

The next meeting of the Council will be held on Tuesday, Aug. 2nd.

ADDITIONS TO THE MUSEUM.

Every year for two or three days in the week in which the election to the Council takes place there is an exhibition of all the specimens which have been added to the Museum during the preceding year.

The new specimens are far too numerous to be mentioned in detail, but an account must be given of those of the greatest interest and importance. Mr. Breward Neal has presented the base of a skull from a case of acromegaly; it shows a greatly enlarged pituitary body. Dr. A. E. Lloyd has given some specimens from a case of diffuse congenital angeioma of the leg; many phleboliths are shown in the dilated deep veins and the tibia and fibula have had an irregular deposit on the surface of new periosteal bone. A specimen of the tongue and larynx from a case of leprosy shows well the great amount of deformity which may occur in these organs in this disease. Almost all the specimens which illustrated Mr. Percy Furnivall's Jacksonian Prize Essay have been added to the Museum; they are twenty-three in number and consist of morbid growths from the stomach and intestines and one specimen shows a section of intestine with a Murphy's button *in situ*; this is intended to illustrate the manner in which the button unites two pieces of bowel. Professor Rose Bradford has presented a specimen which shows the atrophy of the kidney following ligature of the ureter when the dilated pelvis is subsequently drained. Mr. Pearce Gould has given an example of a horseshoe kidney affected with carcinoma. A series of six specimens of molluscum contagiosum on the heads of birds shows well the prevalence of this disease and the fact that two of the specimens (North American bunting sparrows) were mates is much in favour of the contagious character of the condition. The first ovarian cyst removed by Sir Spencer Wells (in 1858) is amongst the additions. Marked retroflexion of the uterus in a monkey is shown in a specimen presented by Dr. W. K. Sibley. Mr. J. Tweedy and Mr. Devereux Marshall have given seven preparations mounted in glycerine jelly illustrating injuries and diseases of the eye.

Laennec's stethoscope (a somewhat ponderous instrument) and the first subcutaneous osteotomy saws used by Mr. William Adams were also on view.

The drawings and photographs were very good and especially must be mentioned one showing hypertrophy of the breasts presented by Mr. H. H. Clutton, and a skiagram showing phleboliths in the case of diffuse angeioma already mentioned.

Mr. Shattock, the pathological curator, has commenced to prepare a series of specimens illustrating the naked-eye characters of cultures of the chief bacteria causing disease in the human subject; these have been preserved by formalin and are to be accompanied by drawings of the microscopic appearances of the micro-organisms. A series of specimens almost equally useful illustrates the effects in animals of inoculation by pathogenic organisms; for instance, one specimen was part of the back of a rabbit showing an abscess due to the intramuscular injection of a broth culture of staphylococcus pyogenes aureus. The additions to the physiological series are even more numerous. A large number of specimens illustrate the various forms of flexible bands intended for union and support. Many specimens show the variations which occur in the muscular systems in animals; as an instance may be mentioned a specimen illustrating the fact that in a setter the soleus muscle is absent. The separation of the two constituent portions of the suprarenal bodies is shown in a skate (Raia clavata), in which are (*a*) a series of small-paired bodies on

[1] THE LANCET, June 11th, 1898, p. 1644.

the costal arteries and connected with the sympathetic nervous system, and corresponding to the medulla; and (*b*) an interrenal U-shaped body which corresponds to the cortex of the suprarenal bodies of higher vertebrates.

The exquisite dissections, for which the Museum is unrivalled, are on this occasion numerous, and especially may be mentioned dissections showing the sensory and ampullary canals of the skin; these are intended to secrete a lubricating mucus, but from the presence in them of "hair cells" like those in the olfactory mucous membrane and the ampullæ of the semicircular canals, they are thought to be also organs of sense.

Symbiosis is illustrated by some ants (Coractus intrudens) and portions of the stem of a plant in which they live, and parasitism is exemplified by a dodder (Cuscuta epithymum), which lives on a gorse (Ulex europæus); as the dodder does not contain chlorophyll it is dependent on its host whom it pierces by special processes. The dissections illustrating human anatomy are numerous.

There is only one thing to be regretted about this exhibition and that is the fact that it was open for only two days. We think that if it were possible it would be well to have it open for at least a week.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6411 births and 3159 deaths were registered during the week ending July 16th. The annual rate of mortality in these towns, which had declined in the three preceding weeks from 15·1 to 14·7 per 1000, was last week again 14·7. In London the rate was 14·1 per 1000, while it averaged 15·1 in the thirty-two provincial towns. The lowest death-rates in these towns were 8·7 in Portsmouth, 9·0 in Blackburn, 9·2 in Croydon, and 9·5 in Derby; the highest rates were 19·0 in Manchester, 19·3 in Salford, 22·6 in Bolton, and 22·9 in Newcastle-upon-Tyne. The 3159 deaths in these towns included 378 which were referred to the principal zymotic diseases, against 342 and 330 in the two preceding weeks; of these, 122 resulted from diarrhœa, 83 from whooping-cough, 79 from measles, 54 from diphtheria, 24 from scarlet fever, and 16 from "fever" (principally enteric). No fatal case of any of these diseases occurred last week in Croydon or in Blackburn; in the other towns they caused the lowest death-rates in Sunderland and Brighton, and the highest rates in Plymouth, Salford, Birkenhead, Gateshead, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Plymouth, Norwich, Newcastle-upon-Tyne, and Gateshead; and from whooping-cough in West Ham, Salford, and Gateshead. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 54 deaths from diphtheria included 39 in London, 4 in Cardiff, and 3 in Leeds. No fatal case of small-pox was registered last week in any of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2314, against 2238, 2205, and 2250 on the three preceding Saturdays; 265 new cases were admitted during the week, against 231, 204, and 237 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 162 and 160 in the two preceding weeks, rose again to 175 last week, but were 9 below the corrected average. The causes of 29, or 1·0 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Manchester, Leeds, and in sixteen other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·1 and 20·0 per 1000 in the two preceding weeks, further declined to 18·5 during the week ending July 16th, but exceeded by 3·8 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 17·0 in Aberdeen and 17·7 in Dundee to 23·7 in Greenock and 23·8 in Perth. The 559 deaths in these towns included 26 which were referred to whooping-cough, 26 to diarrhœa, 23 to measles, 9 to scarlet fever, 5 to "fever" (principally enteric), and 4 to diphtheria. In all, 93 deaths resulted from these principal zymotic diseases, against 119 and 96 in the two preceding weeks. These 93 deaths were equal to an annual rate of 3·1 per 1000, which was 1·3 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 35 and 21 in the two preceding weeks, rose again to 26 last week, of which 18 occurred in Glasgow, and 4 in Paisley. The 26 deaths from diarrhœa were within one of the number in the preceding week, and included 16 in Glasgow. The fatal cases of measles, which had been 41 and 36 in the two preceding weeks, further declined to 23 last week, of which 10 occurred in Glasgow, 4 in Edinburgh, and 4 in Dundee. The 9 deaths referred to scarlet fever showed a slight further increase upon recent weekly numbers and included 4 in Edinburgh, 2 in Glasgow, and 2 in Dundee. Of the 5 fatal cases of "fever" 4 were recorded in Glasgow, and the 4 deaths from diphtheria included 2 in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 101 and 106 in the two preceding weeks, declined to 76 last week, but slightly exceeded the number in the corresponding period of last year. The causes of 35, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the three preceding weeks from 22·8 to 20·3 per 1000, further fell to 18·5 during the week ending July 16th, a lower rate than has been recorded in any week since September, 1896. During the past four weeks the death-rate in the city has averaged 20·9 per 1000, the rate during the same period being 14·4 in London and 19·5 in Edinburgh. The 124 deaths registered in Dublin during the week under notice showed a decline of 12 from the number in the preceding week, and included 3 which were referred to the principal zymotic diseases, against 11 and 6 in the two preceding weeks; of these, 1 resulted from scarlet fever, 1 from whooping-cough, and 1 from diarrhœa, but not one either from small-pox, measles, diphtheria, or "fever." These 3 deaths were equal to an annual rate of 0·4 per 1000, a lower rate than has been recorded in any week since February, 1896. The zymotic death-rate last week was equal to 1·9 per 1000 both in London and in Edinburgh. The 124 deaths in Dublin last week included 16 of children under one year of age, and 27 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers in the preceding week. Six inquest cases and 4 deaths from violence were registered; and 49, or more than a third, of the deaths occurred in public institutions. The causes of 5, or more than 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments of Staff-Surgeons are announced:—Ernest E. Bray to the *President*, for the Royal Victoria Yard, Deptford, and George Welch to the *Boscawen*, for Portland Sick Quarters.

ROYAL ARMY MEDICAL CORPS.

Major W. E. Berryman has been appointed Embarking Medical Officer, Southern District, as a temporary measure, in addition to his other duties. Major F. H. Treherne has assumed charge of the Station Hospital, Brighton. A special Army Order has been issued stating that permission will be given to non-commissioned officers and men belonging to the Reserve of the Royal Army Medical Corps (sections B and C) to rejoin the colours, according to the terms of their service, subject to certain conditions. Major James E. Nicholson retires from the service receiving a gratuity. Surgeon-General W. Taylor has been appointed Principal Medical Officer on the staff of Major-General W. F. Gatacre, C.B., in the forthcoming expedition to Khartoum.

The Khedive of Egypt has decided tob estow the Order of

the Osmanieh on Captain Penton, who was attached to the Soudan Expedition. Lieutenant Hugo, who attended a dangerously wounded brother officer for three hours under fire, holding his bleeding artery and finally bearing him to a place of safety, has been rewarded with the decoration of the Distinguished Service Order. Lieutenant-Colonel G. H. Le Mottée, who has been promoted to brigade rank, took part in the Boer War of 1881.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain Grayfoot have been placed at the disposal of the Military Department. Surgeon-Lieutenant-Colonel Dane is promoted to be Brigade-Surgeon-Lieutenant-Colonel, vice Brigade-Surgeon-Lieutenant-Colonel Arnott, retired. Surgeon-Lieutenant Powell (Burmah Valley Light Horse Volunteer Corps) has been appointed Surgeon-Captain. Surgeon-Lieutenant-Colonel Pemberton (Malabar Volunteer Rifles) has resigned his commission. Surgeon-Lieutenant Watson (6th Infantry, Hyderabad Contingent) has been appointed to the Officiating Medical Charge of the Regiment, vice Surgeon-Lieutenant-Colonel Swaine, appointed to officiate as Principal Medical Officer, Hyderabad Contingent. Surgeon-Captain Buchanan has been appointed Temporary Superintendent of the Central Jail, Dacca. Surgeon-Captain Gwyther has been appointed to be Inspecting Medical Officer at Chausa Station on the East Indian Railway. Surgeon-Captain Deare has been appointed to be Civil Surgeon of Nadia. Surgeon-Captain Oldham has been appointed to be Civil Surgeon of Backerganj. Surgeon-Major Walsh has been appointed to act as temporary Civil Surgeon of Murshidabad. Surgeon-Lieutenant-Colonel McConaghey, Civil Surgeon, Lucknow, has been appointed to hold Visiting Medical Charge of Rae Bareli in addition to his own duties. Surgeon-Captain Crawford, Civil Surgeon, has been transferred from Muttra to Lucknow. Surgeon-Captain Morton (Madras) has been transferred to the half-pay list. The following officers have retired from the service: Brigade-Surgeon-Lieutenant-Colonel Cunningham C.I.E. (Bengal), Surgeon-Lieutenant-Colonel Baker (Bengal), Surgeon-Lieutenant-Colonel Fitzpatrick (Madras), and Surgeon-Lieutenant-Colonel Backhouse (Madras). The services of Surgeon-Captain Clarkson and Surgeon-Captain O'Kinealy are replaced at the disposal of the Government of Bengal. The services of Surgeon-Captain Street are placed temporarily at the disposal of the Government of Bombay. The services of Surgeon-Captain Vickers are placed at the disposal of the Government of Madras. The services of Surgeon-Captain Henvey are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces. Surgeon-Major Smith, Civil Surgeon, Shahjehanpur, has been appointed to hold Visiting Medical Charge of the Hardoi District in addition to his other duties. The names of the under-mentioned officers, whose promotion to the rank of Surgeon-Lieutenant-Colonel was notified in the *London Gazette* of June 17th, are as follows, and not as given in that *Gazette*: Sir George Scott Robertson, K.C.S.I., and Damodar Purshotam Warliker. A small committee, composed of two medical officers belonging to the Home and Indian Medical Services respectively, is about to meet at Simla to consider the question of modifying the field hospital equipment, with a view to its reduction, in the light of the experience gained during the recent operations on the frontier.

YEOMANRY CAVALRY.

Pembroke: James Wilson is appointed Surgeon-Lieutenant.

VOLUNTEER CORPS.

Light Horse: 1st Fifeshire: Surgeon-Captain A. Drysdale has resigned his commission but is permitted to retain his rank and to wear the uniform of the corps. *Artillery*: 1st Gloucestershire: Surgeon-Lieutenant W. Monckton has resigned his commission. *Rifle*: 1st Surrey (South London): Surgeon-Major C. S. Smith has resigned his commission but is permitted to retain his rank and to wear the uniform of the corps. 4th Volunteer Battalion the King's (Liverpool Regiment) Mr. J. H. P. Graham has been appointed Surgeon-Lieutenant. 5th (the Hay Tor) Volunteer Battalion the Devonshire Regiment: Surgeon-Captain W. H. Webb has been appointed Surgeon-Major. Surgeon-Lieutenant J. F. S. Clarke has resigned his commission. 5th Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Dr. James Pearson Brown has been appointed Surgeon-Lieutenant.

THE SPANISH-AMERICAN WAR.

Events have been rapidly moving of late in connexion with this war. The capitulation of Santiago and the Spanish evacuation of that city have taken place just at the right time for the United States, for an outbreak of yellow fever had occurred in the American lines, torrential rains were falling, and the situation of General Shafter's force, owing to the exposure of the troops and a breakdown in its supply departments, was becoming a serious cause of anxiety at Washington. Under such circumstances it was only to be expected that the hospital accommodation and medical arrangements were inadequate and left much to be desired. The storming and capture of the entrenchments of Santiago would, if stoutly defended, have been a formidable affair and have involved a serious loss of life. The Spanish troops, numbering some 10,000, are to be sent back to Spain, while a sufficient number of American troops will garrison Santiago to keep order, and the rest will no doubt be removed from the hot and unhealthy Cuban seaboard to the hills or return to America. It does not appear that there was any large amount of sickness or any actual famine among the Spanish troops at Santiago at the time of its surrender, but supplies were nevertheless running short, and a great deal of destitution prevails generally amongst the Cuban population. It has been decided to establish a large military hospital at Santiago, and to send a large additional force of medical men, nurses, and medical supplies there. The American troops who have taken part in the expedition to Santiago will not be fit for active service elsewhere for some time to come owing to the hardships which they have undergone and to the prevalence of disease—yellow fever and malarious types of fever and dysentery. According to late accounts there were between 200 and 300 cases of fever in hospital. The hospital ship *Solace* brought 48 wounded Spaniards to the States in a pitiable condition and they were transferred to a naval hospital for treatment. Peace is generally talked of, but there is no definite news as to the Spanish Government having made any official proposals or overtures to bring it about and the United States Government are losing no time in fitting out expeditions for the bombardment of Spanish ports and for the attack and capture of Porto Rico. Meanwhile they have bombarded Manzanillo and destroyed some Spanish ships. The Americans will yet have a difficult task in dealing with the Cuban insurgents who have assumed a hostile attitude towards them.

INVALID BRITISH SOLDIERS IN INDIA.

In THE LANCET of June 25th last we called attention to a question which had been raised in the House of Commons, after having been previously discussed in the columns of the *Morning Post*, regarding the establishment of hospitals and homes for sick and disabled soldiers. In connexion with that subject we pointed out that, as everybody knows who has had any personal experience of sickness, a man is not usually fit to return to his ordinary work on recovery or during convalescence from any illness if it has been at all severe in character. The recommendation that a soldier should be put on light duty or allowed to go on sick furlough does not sufficiently meet all cases; nevertheless, the present method of providing light duty for soldiers discharged from hospital might no doubt be largely extended with advantage to them and to the service. We learn that under instructions from the Secretary of State for War a General Order has been published in India notifying that in order to check if possible the waste which is caused by the invaliding of young British soldiers it is desirable that a certain time may be allowed to pass after the discharge of men from hospital before they are called upon to perform their full duties as soldiers. With a view to attaining this object officers in medical charge of British troops on notifying to commanding officers that soldiers have been discharged from hospital will, when they consider it advisable, state from what particular duties and for what period such men should be exempted.

REVISED FIELD MEDICAL EQUIPMENT.

We have received a description in pamphlet form of the Revised Field Medical Equipment (1898 Pattern) promulgated by Army Orders dated July 1st. The "field medical companion" will in future be known as the "medical companion," the special surgical panniers as "field surgical panniers," and the box of apparatus for fractures and dislocations as the "general fracture box." An antiseptic case (weight about 43 lb.) has been added. Compressed drugs, termed "tablets," have been extensively adopted. The amount of anæsthetics carried has been

largely increased. All surgical instruments are metal handled. Sterilisers (field pattern) have been added. In the panniers and fracture box, splints have been entirely abolished and perforated zinc substituted, together with tools for making it into splints. All field medical units are now supplied with operating tables.

SURGEON-GENERAL W. TAYLOR.

Surgeon-General Taylor had the honour of forming one of a party of officers dining with the Queen and Royal family previously to embarkation for Egypt to take part in the forthcoming expedition to Khartoum. Surgeon-General Taylor, as we have already intimated, will act as principal medical officer of that expedition and subsequently, on completion of that service, will proceed to India as Surgeon-General and principal medical officer of Her Majesty's forces in relief of Surgeon-General Gore, who will go on the retired list in December next.

ENTERIC FEVER AT OOTACAMUND.

There has been a good deal of enteric fever prevailing of late at this favourite hill station and the Madras Government have appointed a committee to inquire into and report upon the causes of it.

We are glad to hear that Surgeon-Major-General Cleghorn, C.S.I., of the Indian Medical Service, has recovered from the results of his late accident while bicycling.

Correspondence.

"Audi alteram partem."

A PROPOSED SCHOOL FOR TROPICAL DISEASES.

To the Editors of THE LANCET.

SIRS,—Sir H. Burdett in the *Times* of July 11th writing of a proposed school for tropical medicine, states that "the teaching staff will consist of the senior medical staff of the *Dreadnought* Hospital at Greenwich, as well as of the branch hospital, together with a number of teachers specially selected and attached to the new school." This was the first intimation of any kind that we had that such a scheme was on foot, and the statement was made without our authority or consent.

We are, Sirs, yours faithfully,

JOHN CURNOW, M.D., F.R.C.P. Lond.,
JOHN ANDERSON, M.D. St. And., F.R.C.P. Lond., } Visiting Physicians.
G. R. TURNER, F.R.C.S. Eng., Visiting Surgeon.

Dreadnought Seamen's Hospital, Greenwich, July 18th.

"REGINA *v.* COLLINS": A PLEA FOR AMENDED LEGISLATION.

To the Editors of THE LANCET.

SIRS,—It would serve no good purpose to dwell in the page of a professional journal on the unspeakably low moral tone of so-called "society," on which the revelations of the recent trial have thrown such a lurid light. The sentiments of the community have already found adequate expression in the columns of the lay press—notably the *Times*—whose fearlessly outspoken article has rendered a distinct service to the cause of public morality. Rather, with your kind permission, would I remind my professional brethren that this trial has once more called attention to the exceedingly shadowy nature of our privileges as duly registered members of the medical profession. When the general public learn, as in this case, that an unregistered man may engage with perfect impunity in medical practice until his career is checked by conviction for felony they not unnaturally ask what the privileges of registration really mean. Briefly they are somewhat as follows. We may sign valid certificates, we may offer ourselves as candidates for public appointments, and we may claim (though we may not always obtain) our fees in a court of law. Apart from this our position is aptly described in the following extract from the leading article in the *Times*: "He [Collins] must have known in what degree his calling was esteemed, or he himself as a member of it, when he found that his patients were as ready to honour him with their confidence after he had been convicted of felony as before, and that a trifle of this kind scarcely at all affected his position." Significant words, and only too true.

A duly enrolled solicitor is adequately protected by law against unscrupulous competition on the part of those whose names have never appeared in the Law List or whose misconduct has entailed their removal from it. The same protection is afforded to duly ordained clergymen of the Church of England. Why, then, should duly registered members of a profession not a whit less honourable be obliged to share the right of practice with anyone possessed of sufficient self-assurance to make a show of professional skill and sufficient cunning to keep within the generously defined bounds imposed by the existing law? Your columns have again and again exposed this absurd and indefensible anomaly. May we not hope that the General Medical Council, as custodian of our Register and of the honour of our profession, may find an early opportunity for urging on our legislators the necessity for some amendment of the present statutes? I feel confident, Sirs, that your powerful aid will not be wanting and that you will allow the subject to be thoroughly ventilated in your columns.

I am, Sirs, yours faithfully,

T. R. HENDERSON, M.B. Edin.

Bedford-hill, S.W., July 5th, 1898.

"A PHYSICAL BASIS IN THE DRUNKENNESS OF WOMEN."

To the Editors of THE LANCET.

SIRS,—I am much obliged for your paragraph on this matter, for its criticism is at least much more kindly and fair than most of that which I have come across.

In most instances I am wholly misrepresented because of a ridiculously garbled and inaccurate report prepared for one of the reporting companies which appeared in most of the morning papers. Even your paragraph falls into one error in which you make me say that I recommend the use of alcohol in treating the inebriety of women. This is not the fact. What I did say was that in the climacteric drunkenness of women I did not regard total deprivation as necessarily a part or always a safe plan. That men and women in the better ranks of life differ materially in their ways of abusing alcohol is a fact which no one can dispute. That there is a specific drunkenness amongst women confined to the climacteric period is a point on which I want the eyes of my profession to be opened. I have often declared it, but my work has so far received no recognition. But I know it not only as a practitioner but as an intimate friend and relation of some of its victims.

That the agonising suffering induced by chronic pyosalpinx and kindred ailments will induce the victims to the periodic abuse of alcohol and morphia, and that these habits may be cured as the sufferings are by surgical treatment, are facts which are proved up to the hilt by my surgical records. My brethren may dispute my conclusions as much as they like, but if they bear my statements in mind and look about for evidence they will not be long before they find that the facts and my statements run together.

Having arrived at such conclusions it seems to me a terrible thing that women may, under the Government Inebriates Bill, be put in prison because they are the victims of curable surgical ailments.

I am, Sirs, yours faithfully,

LAWSON TAIT.

Newhall-street, Birmingham, July 18th, 1898.

"ARSENIC IN WOOL."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter in THE LANCET of July 9th under the above heading. My only reason for referring to this correspondence is to correct a misapprehension on the part of the writer of the letter, who says: "I believe it is nearly if not quite impossible to buy any sheep's wool (home or foreign grown) which does not contain arsenic." This is a mistake, for while it is quite true that the great majority of sheep are arsenic-dipped a very large number are dipped with other substances, principally carbolic dip, next tobacco, and a considerable number with lime and sulphur. I manufacture, for home and export trade, both arsenical and carbolic sheep dips, and I find that exactly 20 per cent. of my total output last year was carbolic sheep dip; fully 80 per cent. of this carbolic dip was

exported to the colonies and to South America. There are at least ten or a dozen other firms making both varieties of sheep dip for home and foreign trade, some of whom I am sure sell a larger proportion of carbolic dip.

I am, Sirs, yours faithfully,

Oban, July 18th, 1898. ALEX. ROBERTSON.

TRANSPERITONEAL LIGATURE OF THE ILIAC ARTERIES.

To the Editors of THE LANCET.

SIRS,—A paper on this subject which may have escaped Mr. Frederick Page's notice was published by Dr. Thomas S. K. Morton, Professor of Surgery in the Philadelphia Polyclinic, on Jan. 15th, 1898, in the *Journal* of the American Medical Association. Dr. Morton collected 29 cases, including one operated on by me.

I am, Sirs, yours faithfully,

Liverpool, July 18th, 1898. F. T. PAUL.

SWALLOWED COINS.

To the Editors of THE LANCET.

SIRS,—In reference to Mr. Robson's cases of removal of impacted halfpennies from the œsophagus I may mention that I have quite lately had under my care a boy, aged ten years, who swallowed a penny. The x rays revealed the foreign body in the stomach some 10 days after the event. He was kept on dry food and in about 20 days the boy passed the coin *per anum*. The parents were foolish and purgatives were as usual administered. It is interesting to know that so large a coin as a penny can be swallowed by a small boy and safely pass the pyloric and ileo-cæcal valves, and points to the lesson that we should not be in too great a hurry to operate in such cases.

I am, Sirs, yours faithfully,

July 20th, 1898. A. MARMADUKE SHEILD.

"THE DRAINAGE OF SWANAGE."

To the Editors of THE LANCET.

SIRS,—As medical officer of health of Swanage I must protest against your annotation headed "The Drainage of Swanage," which is calculated to give a wrong impression and lead visitors to suppose that our town is in a very insanitary condition. It is true that we are waiting for the late autumn to carry our drainage outfall further out to sea, but practically the present outfall is no nuisance to the bay or town owing to the comparatively small amount of sewage passing through it; and the distant outfall is to be constructed under the impression that Swanage will rapidly increase in size. What is of more importance is a pure supply of water. This, we are thankful to say, we have, and since I have been medical officer of health, a period of over eight years, there has not been a case of typhoid fever in the town and diphtheria is practically unknown. Unfortunately our council has not adopted the Notification of Infectious Diseases Act, but my brother practitioners are always willing to let me know if they have any infectious cases under their care and I may safely say that we are now free, and have been for months past, from any infectious complaints. I am, Sirs, yours faithfully,

A. S. MCCAUSLAND, M.D. Brux., L.R.C.P. Lond., M.O.H.

Swanage, July 19th, 1898.

P.S.—The *Bournemouth Guardian* you quote from is the organ of a rival watering-place whose medical men and residents frequently come to Swanage for the benefit of the bracing air during the summer months.

*** Our contention is that the sanitary defects pointed out by Dr. S. W. Wheaton in his report made in 1897 still remain. We are glad to hear there is neither typhoid fever nor diphtheria, but are not the conditions in Swanage such as to favour the spread of these diseases should they arise?—ED. L.

CHURCH SANITARY ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Will you kindly permit me to make known to your readers the aim of the Church Sanitary Association? The object of the society is to aid, by means of the Church's institutions in every parish, in securing for all fresh air, pure water, abundant light, proper food, improved dwellings, wholesome surroundings, and the greatest possible immunity from infectious diseases. With county councils, district councils, and parish councils ready to put into effect the judgment of sanitary officers it is all the more necessary for the preacher to drive home the lesson that man is his "brother's keeper." I am, Sirs, yours faithfully,

F. LAWRENCE, Hon. Secretary.

Church House, Westminster, S.W., July 15th, 1898.

*** We print this letter with pleasure, but our previous allusions to the society must have made its scope familiar to our readers.—ED. L.

BONE-SETTERS AND THE EMPLOYERS' LIABILITY ACT.

To the Editors of THE LANCET.

SIRS,—I wish to ask your opinion on a class of individuals who call themselves "bone-setters." A duly qualified and registered man is called in the first instance to an accident and pronounces it a fracture of both bones just above the ankle. Afterwards a "bone-setter" is employed without in any way informing the medical attendant and tells the patient's employers that "his spiel bone is broken and his ankle put out." I had to see the patient as surgeon for the employers under the new Act and in my opinion the surgeon who first saw the case is right. It was fifteen days after the accident before I could examine and thanks, no doubt, to the interference of the quack in the interval the swelling was still so great that the parts could scarcely be made out. What I want to know is, firstly, whether any objection can be raised by employers as to the compensation to be granted when joints and limbs are mauled by an unskilled and unqualified person who takes upon himself the duties of a surgeon; and secondly, whether the General Medical Council can and will protect us, as otherwise of what avail are our long and severe curriculum, our searching examinations, and our strict registration laws? We have to contend with men who have neither science nor a spark of gentlemanly instinct on very unequal grounds. I, and no doubt many others, could give you some terrible results from the interference of these impostors.

I am, Sirs, yours faithfully,

JOHN CRANKE, L.R.C.P. & S. Edin., &c.

Ulverston, July 19th, 1898.

BRITISH MEDICAL ASSOCIATION: ANNUAL MEETING IN EDINBURGH IN 1898.—CONSTITUTION AND CONDUCT OF THE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—I shall be glad if you will allow me to intimate to those of your readers who are interested in the proposed alteration in the by-laws that an informal meeting will be held on Monday evening, July 25th, in the chief class-room of the new School of Medicine of the Royal Colleges, Bristo-street. The chair will be taken at 9.30 o'clock precisely, and the proposals bearing upon this and other questions will be considered with a view to facilitating discussion thereon when brought before the general meeting. I trust that as many of those members who have reached Edinburgh and are able to will make it convenient to attend. The best train from Manchester will leave Victoria on Monday at 12.50, reaching Prince's-street at 6.5, and I shall be glad if anyone wishing to go by that train will let me know by Saturday night's post so that carriages may be reserved.

I am, Sirs, yours faithfully,

Old Trafford, July 18th, 1898. JAMES BRASSEY BRIERLEY.

"THE ALLEGED DEARTH OF QUALIFIED ASSISTANTS."

To the Editors of THE LANCET

SIRS,—Your correspondents on this subject seem to be extreme, and if you will permit me to give my impressions from a long and varied experience of both sides of the question it may perhaps be of interest. I must say that the

six years I acted as assistant in three or four different parts of this country, different classes of practice and both in-door and out-door, I lived as I never lived before or since and enjoyed the best of health. I had plenty of sport and amusements and time therefor and never had to complain of any want of consideration on the part of my principals, and in those days of a plentiful supply of assistants I had no difficulty in getting a post at £150 out- or an equivalent in-door and was always offered an increase if I chose to remain on. Then when I purchased a share in a practice my troubles began and were little diminished when in a few years I succeeded to the whole. It was, as your correspondent describes, slavery day and night, no time for recreation and expenses about half the receipts; consequently, according to the old proverb continual dropping "wears away (even) stones," my health broke down, I had to sell out and take a year's rest to undo the results of trying to earn my living in a country practice. My experience of even a good-class country practice is that I would far prefer an appointment of £200 a year clear and work proportionately. As to assistants, I believe that a steady, reliable man can command a good salary and every consideration from his principal. I have only had experience of two. One was a drunkard and the other was most unsatisfactory. A medical man who considers his own interest will do anything in reason to make his assistant comfortable and settled, otherwise he will injure his practice, give himself any amount of trouble and worry, and yet not harm his assistant. In fact, an assistant can easily lighten his work by frequently changing or by making himself unpopular should his principal not choose to make him comfortable or to remunerate him properly. I cannot understand the position of your correspondent "Practitioner"; he was first an assistant, then had a practice, then a partner at No. 1, and now has a practice of his own at £400 a year. I think the fact of a man working practically "night and day" for £400, keeping two horses and possibly a bicycle, and a £40 drug bill, and requiring an assistant "badly," shows that in selecting a practice he has come upon a *rara avis*. I have practised in one of the poorest and most scattered of agricultural districts where the union appointment was worked at a loss, almost all the remaining population in clubs, and midwifery all round averaged 15*s*. a case, and yet I almost doubled the income of your correspondent. There is no doubt but that if medical men were more in union their conditions of life and remuneration would be far better.

Some years ago I received an offer of over £200 a year and light work from an unqualified man doing at the rate of £900 a year, which I, of course, unhesitatingly declined; this man had got well-qualified men to do it before and no doubt got them to continue to cover him in his work. Again, when I purchased a practice the remuneration as district medical officer was so reduced that I would have declined it until raised to a fair sum, but I had to contest the appointment with an opponent and gladly accept it to be worked at a pecuniary loss. Medical men, I believe, are in a great measure to blame for their own grievances. Nevertheless, I agree with your correspondent that it is not a profession a great many of us would again select had we the chances and opportunities of our youth.

I am, Sirs, yours faithfully,

July 11th, 1898. LOCUM.

To the Editors of THE LANCET.

SIRS,—The letter of "Practitioner" in THE LANCET of July 9th seems to me to have struck the keynote of the above question, but at the same time he does not go far enough in that he gives no explanation as to why the principals are not in a position to pay a good salary. This I believe I have found a solution for, and it is summed up in the expression "medical fees." These not being laid down by law, as are legal fees, have simply been cut down to below a living wage because men desire to have large practices, and that they do have an immense amount of work for a small return is well known, since the public is notoriously fond of the cheapest article though it is not always the best. From past experience I know that a principal who charges a respectable fee of 3*s*. 6*d*. or 5*s*. a visit and who will not see a patient at home for less than 2*s*. is well able when he requires an assistant to pay one well, but those men who have dragged down the profession by accepting fees of 1*s*. for a visit and medicine or 5*s*. for a week's attendance, including medicine and sometimes a night visit, plainly, even though they have a very large *clientèle*, cannot afford to pay a good salary for a qualified man, but when in need of an assistant are forced to make an offer, similar to one in a medical journal of a few weeks back, of £10 per annum in-door, for we all know how many cases at 1*s*. a visit will have to be treated for a return of £300 a year. My contention is, that the medical profession should unite to get a legally recognised fee and those who cannot afford to pay it should be treated either by the hospitals or the parish medical officers, instead of individual practitioners vying with each other in cutting down fees, thereby creating a state of constant work for a starvation wage. In conclusion, may I ask the medical profession to endeavour to elevate it by preserving a respectable fee in the knowledge that "the labourer is worthy of his hire."

I am, Sirs, yours faithfully,

July 16th, 1898. M.B., B.CH. DUBL.

SANITATION AT GIBRALTAR.

(FROM A SPECIAL CORRESPONDENT.)

IT does not come within our province to insist upon the importance of Gibraltar as a fortress and military station. The strategical advantages of holding this Crown colony are fully appreciated, but it is necessary to insist that the military value of the station is dependent to a great extent on its sanitary condition. Fortunately this is a point of view which has not been neglected and very great improvements have been effected. In spite of the increase of population there has been a steady decrease in the death-rate. Thus the mean annual death-rate for the sixteen years from 1851 to 1866 amounted to 29·25 per 1000. The improvement then commenced, and during the ensuing four years the mean death-rate was only 24·61 per 1000. For the next fifteen years the quinquennial average did not reach 24 per 1000 and did not fall below 23·68 per 1000. From 1886 to 1890 the average was 22·44 per 1000. This brings us down to the present epoch, and it will be found that there has been a still greater improvement. Indeed, Gibraltar may now aspire to be compared with the larger towns of England and Wales. Thus in the year 1891 the death-rate did not exceed 18·95 per 1000 and for the five years 1891–95 the average was 19·97. In 1896 the death-rate is set down at 19·52 per 1000; but 1897 was a very bad year, for the death-rate then rose again to 23·56 per 1000. The main sanitary defect at Gibraltar is overcrowding, and it is in regard especially to infant mortality that the colony compares unfavourably with English towns. The birth-rate in 1897 was equal to 31·34 per 1000 and the deaths of infants under one year old was equal to 184·9 out of 1000 born. The principal causes were zymotic and respiratory diseases. The average zymotic death-rate for the entire population was 2·89 per 1000 from 1891 to 1895. It amounted to 2·25 per 1000 in 1895, to 2·69 in 1896, and to 3·77 in 1897. Measles and diarrhœa were the most fatal zymotic diseases in 1897. Pulmonary tuberculosis and respiratory diseases such as bronchitis, pneumonia, &c., caused a death-rate of 7·01 per 1000 in 1897 and 5·23 per 1000 in 1896. Thus, though there has been a general improvement up to 1896, the serious relapse which occurred last year suggests that the general condition of affairs at Gibraltar is not yet absolutely satisfactory. The fact is that the problem of overcrowding has not been solved, nor is it likely to be solved unless the military authorities resign themselves to the necessity of largely increasing the area on which the building of dwellings is sanctioned.

Unfortunately there are at Gibraltar two sets of interests which are diametrically opposed. First, there is the military interest, which would make Gibraltar simply a fortress with scarcely any civil population. Secondly, there is the trading interest, which finds that Gibraltar is a most convenient commercial centre and would soon convert the place into a vast emporium for trade with Spain and the Mediterranean. As usual in such cases neither party has its own way. The trading element is cramped, impeded, and checked by the military element; but, on the other hand, the military authorities have not succeeded in preventing Gibraltar from becoming a very important commercial centre. They have mainly succeeded in producing the excessive overcrowding which is the principal cause of the high death-rate. British

capital and British enterprise have acted like a loadstone in attracting the poorer populations of the neighbouring countries. The right of residence is refused absolutely to foreigners, but it cannot be refused to British subjects, and these include a number of natives from Malta who overcrowd the poorest tenement houses.

The Maltese workmen and labourers are content to live huddled up together in badly ventilated, damp rooms, tainted with decomposing organic matter. Their linen is washed and dried in small inner courts or patios where the sunshine cannot penetrate and where foul water stagnates on the ground. Under these patios tanks receive the rain-water which, though contaminated by the emanations from the yard, is sometimes used for drinking purposes. It is very difficult to inculcate principles of hygiene among the poorer sections of the population. They cannot be persuaded to open the windows to ventilate the rooms where the sick are being nursed. On the other hand, they still believe that by applying the entrails of pigeons, lamb's fat, and other so-called remedies to parts of the patient's body they will cure the disease. To counteract such ignorance and the over-crowding the very best domestic drainage and sanitation generally are most necessary. Much has been done in this respect, but new defects are being constantly discovered. Thus in 1892 some 127 underground tanks were dealt with by the sanitary authorities but a great number of old surface wells situated close to sewers and house drains were not touched, though half of them contained water proved by analysis to be suspicious if not absolutely dangerous. Fortunately the well water has a tendency to become brackish and therefore cannot often be used for drinking purposes. On the other hand, the rain-water may be contaminated on the roofs of the houses where it is gathered. Thus, in his report for the year 1892, Surgeon-Captain Macpherson, who was at that time medical officer of health, states that in one case the soiled mattress, towels, and clothing from a tenement where there was a case of enteric fever were found lying upon the terrace. On two other terraces refuse-buckets and slop-pails were kept and on one terrace, also connected with the water tank, a pigeon roost was installed. The water here collected was proved on analysis to be excessively impure. In another house there was a well-manured garden on the terrace. The water collected was found to be full of micro-organisms, and there was a case of typhoid fever among the inhabitants who drank the water in question.

It will be seen, therefore, that the question of water-supply is one of the most urgent sanitary problems with which the authorities have to deal. There are in the civilian portion of the town 690 underground private water-tanks which receive rain-water from the roofs and terraces and can store 7,535,504 gallons. In many houses these tanks are not large enough, and there are 170 houses which have no tanks. During the year 1897 no less than 273 of these private tanks were inspected, repaired, and cleaned. Apart from this private supply there is a public supply collected by the Sanitary Commissioners from the upper slopes of the Rock and conveyed by gravitation to a reservoir near the Moorish Castle which has a storage capacity of 1,257,444 gallons. This water is sold to the inhabitants at the rate of ten gallons for one penny. During dry seasons when the supply fails sea-water is distilled and sold at the rate of five gallons for one penny. This, as will be seen, is not a very satisfactory arrangement, and under the direction of Mr. W. Wallace Copeland, C.E., a comprehensive scheme for an increased water-supply is now being carried out. Tunnels are being dug into the rock, and inside the mountain, well away from all danger of bombardment, four great reservoirs will be constructed with a capacity of 5,000,000 gallons. The catchment areas, 21½ acres in extent, are to be covered over with concrete; and when this is done there will be enough water for the population and the shipping; though as matters now stand it is necessary to distil more than 3,000,000 gallons of sea-water in the course of the year. The rain-water will be passed through polarite filters and will be stored in absolute darkness. Doubtless when this work is completed an improvement in the health of the population will result.

The difficulty due to overcrowding will, however, still remain. In his report for 1894 Surgeon-Captain Macpherson says: "One-room tenements are necessities here in consequence of the lack of house accommodation and the high rents demanded, and very nearly half the families in Gibraltar occupy such dwellings." Out of 83 cases of small-pox which occurred in Gibraltar during that year 41 patients occupied one-room tenements and 12 two-room tenements. From one point of view, however, the evil resulting was greater in the better-class houses, because the patients were not removed to the isolation hospital and consequently others contracted the disease from the first case. According to the by-laws removal to the hospital can be enforced when the rent paid does not exceed 50 pesetas per month. Thus though first cases occurred more frequently in the poorest houses they were more easily dealt with and further mischief was prevented. Though overcrowding has not been materially checked a great deal has been done in regard to the compulsory notification of infectious diseases, including measles. This disease appears periodically in epidemic form. Thus in 1887 there were 861 cases of measles and there had been 2157 births since the previous epidemic. This gives a proportion of 39 cases per 100 births. In 1890–91 there were 560 cases out of 1568 births, or a proportion of 35 per cent. But in 1894, when much more energetic measures were taken, there were only 173 cases out of 1304 births, or a proportion of 13 per cent. On the latter occasion each case was visited and all the members of the family were kept away from school. Sanitary inspectors made daily visits to the houses where cases had occurred and insisted on the isolation of the patient and on ample ventilation. Only 5 deaths ensued But in 1897 a more severe epidemic visited the town, for there were 13 deaths and 252 cases. At the same time there were 65 cases of diphtheria, of which 18 proved fatal. A large number of these cases followed a very mild course when antitoxin was administered at an early stage. In spite of these unfavourable figures it would seem as if the prevalence of diphtheria was decreasing. Thus, during the quinquennial period from 1886–90, the average death-rate from diphtheria amounted to 1·20 per 1000, whereas during the period 1891–95 it was only equal to 0·36 per 1000. The gratuitous distribution of antitoxin, the more strict supervision over the milk-supply, and general sanitary measures have helped to bring about these results. On the other hand, the disinfecting service is not yet satisfactorily organised. The bedding, linen, &c., from private houses are taken to the Colonial Hospital, where there is a disinfecting stove; but to light this stove involves a certain amount of trouble and expense. There is a segregation block in this hospital where cases of scarlet fever, diphtheria, or measles are treated, and when the hospital authorities have to disinfect for these patients then they do not object to disinfect at the same time the objects sent in from outside. As a result of this state of affairs people are kept waiting a considerable time before they get their clothes back. It is evident that the sanitary authorities should have a disinfecting stove of their own and not be dependent on the goodwill and leisure of the hospital authorities.

Another serious matter is the want of accommodation for laundry work. A great part of the dirty linen from Gibraltar is taken over the lines to Spain, where it is washed in what often prove to be very unwholesome surroundings. On the other hand, many dwellings in Gibraltar are not provided with proper washhouses nor are there convenient means of drying the linen. A large sanitary laundry with modern appliances is much needed. There are no public wash-houses.

Of course, Gibraltar, like most other towns, is much perplexed and troubled by the general question of drainage. A new main sewer has been constructed and it has a length of 13,300 ft. and a flushing tank which holds 1600 gallons of water is connected with this main. This is brackish water pumped up from the north front, used exclusively for flushing purposes and watering the streets. It is known as the sanitary water and is much too salt to be mistaken for drinking-water. It is thought that the flow in the sewers will now be improved and greater internal cleanliness maintained. For the small district called Irishtown, which is situated between this main sewer and the shore and therefore at a lower level, Shone ejectors will be employed to raise the sewage and to throw it into the main. Nevertheless this does not solve the problem of sewer ventilation, which greatly troubles the inhabitants of Gibraltar. Perhaps the sewer air will be less objectionable, but it is too much to hope that it may cease altogether to create a nuisance. From time to time there have been complaints of the odours issuing from manholes, and then these have been closed, so that a greater amount of sewer-air has gained admission into the surrounding houses. Much of the trouble has arisen from the fact

that the radical difference which exists between the laws governing the currents of air in Gibraltar and in England had not been realised. In England the sewer air is warmer than that of the street above, at least during about ten months in the year; in Gibraltar the contrary is the case. The sewers are cold in Gibraltar, whereas they are warm in England and it is the difference of temperature which governs the currents. The principal cause of ventilation, the ascending property of the heated air, which secures the ventilation of the sewers in England, does not exist in Gibraltar. The flow and the rise and fall of the sewage are also active ventilating forces. In England the water is generally at its highest at midday and at its lowest at 3 A.M. This acts like a sort of bellows blowing the air out and then drawing it into the sewers. But at Gibraltar there is so little water that the rise and fall of the sewage is almost imperceptible unless there is a storm; then the effect is most distressing. The sewer air, long pent up, is suddenly forced out and the stench is such that it will awaken the soundest sleeper. The inflow of a sea wave caused by the wind blowing in the direction of the sewer mouth or the passage of a strong wind over the top of a sewer ventilator may produce the same effect. The long-stored sewer air thus extracted, being heavier than the outside atmosphere, descends on the neighbourhood and is not promptly dispelled. Under these circumstances, as the sewers at Gibraltar cannot ventilate themselves they must be ventilated by artificial means. The erection of a destructor would render great service and the furnace might be utilised to draw up and burn the sewer air. Some ventilating fans might also be employed, as in coal mines, to move the air in the parts of the sewer which are too far away to be affected by the fire of the destructor.

Thus Gibraltar needs more house-room so as to prevent overcrowding, a much larger water-supply so that the inhabitants need not drink the rain-water gathered on the roofs and terraces of their houses where it can be easily contaminated and which is also stored in tanks under the houses where again it may be befouled by dirty water from the drains, the surface of the yards, or the streets. Then there must be an efficient means of sewer ventilation, and probably mechanical means will alone ensure a satisfactory and uniform result. Again, there is urgent need of accommodation for the proper washing and drying of linen at Gibraltar, and the sanitary authorities should have a disinfecting stove which could be used at all hours and immediately it is required. There should also be a reception house where families might live for a day or two while their homes are being disinfected. Though the food-supply is on the whole of good quality and the markets are clean and well supervised the itinerant milk-vendors who come over from Spain should be compelled to take out licences and should be placed under efficient control so as to prevent adulteration.

All these observations, it will be seen, mainly concern the health and interests of the civil population, but the garrison has also its share of grievances, though it is not so easy to ascertain the details. The authorities are reticent because they have been recently subjected to some very severe criticisms. The sense of discipline is such that no one dares to speak for fear of incurring the displeasure of a superior authority. However, I was very courteously allowed to visit the Military Hospital, one of the institutions which had been abused in very strong language, and certainly it is not easy to speak favourably of this building. Indeed, what can be said of a hospital which dates back to the year 1792? Is it likely that at that date modern principles of hygiene would be applied? On the other hand, it must be recognised that the plan of the building is eminently suited to the climate. There is a large inner yard surrounded not merely on the ground floor, but also on the upper floor, with a very broad verandah. The yard is so large that numerous orange trees grow in the centre, and being square in shape there are always two sides where shade can be enjoyed. Thus the patients without having to go up or down stairs can sit or lie out in the open and in the shade. The wards have had ventilators added, so that a current of air can be established even when the windows are shut. Then there are windows on both sides of the wards, so that there is no lack of air and light; but nevertheless the building is altogether unsuited for a hospital. The ceilings are held up by any number of large wooden rafters which form countless angles and inaccessible dark corners where microbes and dust can accumulate without let or hindrance. Nor is the hospital provided with an operating room. There is, of course, a room in which operations are performed, but it can in no wise be qualified as an operating room, for it does not differ from any other room and possesses all the sanitary defects inherent to the entire building. It does not even contain the special furniture associated with an operating-room. Certainly, there is an old wooden operating-table, but this quaint bit of furniture would best serve for a museum or an historical exhibition of the surgical appliances of a bygone age.

These grave defects are, however, in a great measure compensated for by British cleanliness, the Gibraltar climate, and the topographical situation of the hospital. These are the real life-giving forces which prevent the disastrous consequences which would probably result if such a hospital existed in, for instance, the neighbourhood of London. The hospital stands on a ledge of the rock, overlooking the sea on the Atlantic side, well away from the town and at a sufficient elevation from the sea to enjoy a greater movement of air than exists on the lower levels. The climate allows door and windows to remain wide open the greater part of the year. It rains so seldom that there is rarely any difficulty in placing a patient in the open air. The open-air treatment and sun baths can be enjoyed nearly all the year round, and this will go a long way to compensate for the effect of dust-harbouring rafters. Of course, it is difficult to prevent the defects inherent in a building which is more than a century old, but there is an air of parsimony about the place which certainly need not exist. Undoubtedly economy is a virtue but it can be pushed too far. It seems as if the fear of spending money has undue weight. Thus it is difficult to get over from England new and more expensive medicaments. The supply of bandages, I ascertained, is so limited that even in these times of peace absorbent wool and such articles have been known to run short before the end of the month. If in this respect I am correctly informed it would be impossible to protest too strongly against such niggardliness. Not only should there be bandages, &c., in store to satisfy all likely demands arising in times of peace, but there should be enough to meet to the full the exigencies of war. It is not after war has been declared that we would have time to think about sending absorbent wool to Gibraltar. These are precisely the sort of details which should be thought out and completely organised in advance. If there has been neglect in this matter or unwise economy then a very heavy responsibility rests on the authorities concerned. Officials may seek to make themselves popular with their superiors or with the Government by reducing the expenses of their department, but this must not be done at the sacrifice of efficiency. In bringing this grave question forward I can only hope I have been misinformed, but I hold my information from such good sources that I feel at least justified in demanding that an inquiry should be made to see if the economy practised has not been carried to the point of sacrificing efficiency.

THE SPANISH-AMERICAN WAR.

(FROM A SPECIAL CORRESPONDENT.)

On board U.S. Hospital-ship *Relief*, July 3rd, 1898.

THIS beautiful ship got safely off on the first log of her journey late yesterday and if a peaceful sea and sunny skies are omens for good surely she will bring comfort and relief to our brave men in the field. Our progress down the bay of New York was marked with the wildly enthusiastic tooting of many whistles. It seemed more like a triumphant return from duty well done and must have touched the heart of our commanding surgeon. People crowded the rails of the ferry-boats and cheered long and heartily. The *St. Paul*, looking as if she were in bad humour and longing for another torpedo-boat to eat up, dropped her flag in a dignified way as we passed; the huge *Campania* gracefully did the same with the Union Jack, and with a funny little squeal from a tiny launch we slid out to deeper waters.

It is really difficult to do justice to the absolute completeness of this floating hospital; already things have been put into shape and surgeons, nurses, and hospital stewards seem to have caught the spirit of the surgeon-in-chief and those at home need have no fear but that

this ship is destined to accomplish great things. There are two chaplains on board, the Rev. Mr. Robinson and Father Connelly. Each held a simple service on deck this morning and asked a blessing on this mission of peace. Both are unaffected Christians whose ministrations will bring consolation to many a poor fellow who is suffering or dying in this war. We stop at Fortress Monroe for a few hours this afternoon and then go to Santiago, where we are due some time on July 7th.

With reference to certain statements recently made in a temperance journal called the *Voice*, recalling certain unfortunate incidents in the Civil War, I have questioned a number of army officers as to the use and abuse of alcohol in that service and they, without exception, affirm the "good habits" of officers and men. The Rev. Mr. Robinson, the chaplain of this ship, tells me that in twenty-two years of service he can recall but one case of an officer being intoxicated on duty, and says it is a pleasure to be able to attest the self-restraint exhibited by our officers in all such matters both on and off duty. He agrees with me in believing that no good purpose can be served by raking up old scores now, over a third of a century after their occurrence. In the old days there was much drinking in both the army and the navy, but that time happily is past, and all who know anything about these branches of our Government recognise this fact and are happy and proud to give credit where credit is due.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague in Bombay, Karachi, and Calcutta.—The System of Appointments in the Government Services.

THE increase in the number of deaths from plague during the past week in Bombay should not be without its warning. A jump from 15 to 53 cannot be accidental, and distributed as the cases have been in different parts of the city it behoves the authorities to make every preparation for a recrudescence. A certain district called Mandvi, where the disease is supposed originally to have broken out, still remains the one spot which is continually recording its cases. In fact, from this particular area it has never been absent. In other respects the health of the city is remarkably good, and what is particularly noticeable is the exceptionally low mortality from fevers. One would almost imagine that the two epidemics had in some way cleared the air. What is perhaps still more remarkable is the almost entire absence of cholera. Karachi is not yet quite free, but the cases are reduced to two or three a day. An experiment to be watched here will be to see whether a redevelopment of the disease occurs when the 30,000 people now out in camps are allowed to return to their homes. The first case of plague among Europeans in Calcutta has just been recorded. The number of cases reported daily is small but steadily continues, and there must be the ever-present danger of a development at any moment. A total of 156 cases has been recorded, with a mortality of 71 per cent. About 2000 persons have so far been inoculated—an utterly insignificant number to have any effect on the possible development of the epidemic.

The system of appointments in the Indian Medical and Civil Services is open to much abuse. One constantly hears that So-and-so has been very fortunate in obtaining some particular berth. It is well known, however, that the so-called "luck" depends upon patronage. With the Civil Service the medical profession has of course little concern, but in both services the evil must be equally detrimental. If it does nothing else it stifles independence of character and original work. It would perhaps be equally unsatisfactory to grade the various appointments and to fill them by a process of pure seniority. The essence of the evil as it exists now probably lies in the power of patronage given to certain officials. A possible solution of the difficulty in properly filling up these posts might be found by the appointment of an independent board. Such a board with definite instructions to appoint on certain definite lines might certainly remove some of the anomalies and grievances which now exist. The Government services naturally attract a large proportion of the ablest men and the appointments under Government should be far removed from the semblance of favouritism. The best work will never be obtained until this principle is recognised and acted upon.

July 2nd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Hospital Question.

THERE are indications that before long the "infirmary question" will again lend itself to controversy. The last pronouncement of the infirmary board was to the effect that they could not entertain the proposition for the sale of the whole of the site. When the vote of the infirmary trustees was taken about a year and a half ago there was a majority of 46 in favour of rebuilding on the present site, but only 853 votes—about two-thirds of the full number—were recorded. A meeting of the trustees is to be held shortly and the question is to be put to them again. The present site cannot serve for rebuilding on the enlarged scale which will be necessary, and if the infirmary is to remain in the centre of the town more adjoining land must be purchased. This will necessarily be costly and will require some closing and rearranging of streets. The infirmary site is the finest—indeed, almost the only fine one—in the city, and longing eyes are sometimes cast on it as being so admirably adapted for a fine public building. Manchester is said not to have one on a site worthy of itself, and that may indeed be said of the town-hall, the assize courts, and Owens College. They all want lifting up. Manchester needs an art gallery and a central free reference library "badly," as many people think, and they might be lodged in a building and on a site "worthy of itself" if only the Infirmary trustees would sell and the money with which to buy could be found, and both these "ifs" may perhaps be got over. The retention of the infirmary in the centre as a matter of convenience in spite of smoke, smuts and traffic, or its removal to a suburb where the air is presumably somewhat less loaded with impurities, has long been a topic for argument. Of course if removed a site not too far from Owens College would be desirable. Should the removal be decided on, the question of "out-patients" next comes forward. One idea, involving a new hospital near the College and the retention of a good part of the present building for out-patients, with a few beds for accidents, may be given up as wasteful and extravagant, though at one time it seemed to be held by many. A new scheme is now brought forward, that there should be a central receiving and out-patients' department, which would constitute a medical clearing-house for the infirmary and for all the special hospitals in the city. At present no doubt there is great waste of energy both as regard staffs and patients. The Children's Hospital is at Pendlebury and its out-patient department in Gartside-street. The Consumption Hospital is at Bowdon, but the out-patients are at Hardman-street. The Eye Hospital in Oxford-street has an out-patient department in St. John-street. A building in the centre would be required large enough to accomodate all the out-patient departments of the various hospitals. Each would remain under the charge of the respective honorary staffs as at present. There would be a few beds for emergencies, while sickness and accidents would be treated there day by day and "those cases which needed to be made in-patients would be drafted out in suitable ambulances to the new infirmary, the Children's, the Eye, the Consumption, or other hospital." No doubt some economy in administration might result as there would only be one staff of officials. The arrangement is said to be simple, but it seems to be the simplicity of a Clapham-junction. And it is doubtful whether one central station would suit the out-patients from all parts of the city and suburbs as well as does the present arrangement, by which they can get treatment nearer their own doors.

The Nurse's Mistake at Crumpsall.

At the meeting of the Manchester Board of Guardians on July 13th the visiting committee of the Crumpsall Workhouse reported upon the circumstances respecting the administration by mistake of a poisonous preparation of opium. The report does not throw much light on the way in which the mistake occurred, but it states that the opiate solution was "not, in fact, left with the ordinary medicines,

but was placed in a separate locked cupboard specially used for it and the chloral mixture," and that the two bottles "are entirely different" and both labeled with the word "Caution" in red letters, and therefore that the censure passed at the inquest on Nurse Brooks was undeserved. On the other hand, the report cannot acquit Nurse Jackson, who gave the medicine, of the charge of "failing to exercise due care in the present case," but it adds that "the justice of the case has been met by the censure passed upon her by the jury." It is said, no doubt with truth, that she has suffered great mental distress and as she has not previously given any cause for complaint the report recommends that no further steps be taken in the matter. It is certainly very unlikely that she will ever again make a similar mistake. Medical men no less than the public will like to know whether she was over-tired with having been too long on duty—whether, indeed, she was overworked. It is as necessary that the administration of powerful remedies should be in the hands of a nurse who is fresh and alert as it is that the man in the railway signal-box should not be asleep.

Outbreak of Diphtheria at Urmston.

It was stated at the meeting of the Urmston District Council on July 12th that no fewer than 23 cases of diphtheria had been reported. So far the cause has not been traced. Most of the cases originated in the British schools and the infants' department has been closed. The drains of the district were said to be "in perfect condition and therefore the outbreak was not due to any drainage defect." Similarly the chairman of the sanitary committee "wished to point out most distinctly that those schools were in a perfect state of sanitation and no blame was attached to them for the epidemic." It is not always wise to be so sure. The chairman of the sanitary committee and Dr. Fryer, the medical officer of health, have been requested to inquire into the matter, and it would not be a complete inquiry if these two possible sources of mischief were left out. It may be mentioned that Urmston has its difficulties as to sewage disposal like many other places. The Urmston and Flixton joint drainage committee have a sewage farm and while the hay-making is going on the crude sewage passes directly into the Ship Canal. The joint drainage committee were summoned before the magistrates on July 7th at the Manchester police-court and fined. This imperfect mode of dealing with sewage may possibly have some bearing on the outbreak of diphtheria.

Medical Officer to the Salford School Board.

At the meeting of the Salford School Board yesterday a report was adopted recommending the appointment of a medical officer to the board at a salary of £150 per annum. Amongst other duties he would visit each department of the board schools once a year; report in writing as to the sanitary condition of the premises; examine children reported to the board as being defective or feeble-minded and decide as to their being taught at a special centre; advise the board as to the course of study, &c., of those in attendance at the centres for defective children; and examine blind and deaf children and decide whether they were suitable cases to be dealt with under the Blind and Deaf Children Act.

July 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointment of a Professor of Public Health in the University of Edinburgh.

AT a meeting of the University Court held on July 19th Dr. Charles Hunter Stewart was appointed to the newly-established chair of public health. The chair is named the Bruce and John Usher Chair in honour of the gentlemen who endowed it and by their munificence make it possible for the University to separate it from medical jurisprudence. Dr. Hunter Stewart is a graduate of medicine and of science of Edinburgh and has had charge of the public health laboratory for years. The University may be congratulated on having been in a position to make this important change.

The Edinburgh Meeting of the British Medical Association.

The arrangements for this meeting are practically complete and everything points to the meeting being a great success from the local, scientific, and social sides. All that is wanted is fine weather and in Scotland we can never be sure of that. The President-Elect will give an official dinner on Monday night in the Royal College of Physicians of Edinburgh. The meetings will begin on Tuesday.

School of Medicine of the Royal Colleges, Edinburgh.

At a meeting of the governing board of the School of Medicine of the Royal Colleges, Edinburgh, the secretary, Mr. R. N. Ramsay, reported that the number of students so far as ascertained attending the school during the summer session recently closed was 1239. This is a fact of much interest and shows how much extra-mural teaching is taken advantage of by university students.

University of Aberdeen.

In the medical faculty thirty-one candidates have just passed the whole of the third professional examination. Three medical graduates have after examination obtained the diploma in public health. The following have been appointed examiners for degrees and preliminary examinations: In botany, J. Reynolds Green, D.Sc. Camb., F.R.S., Cambridge; in chemistry: John Shields, D.Sc. Edin., London; in medical jurisprudence and public health: W. Leslie Mackenzie, M.A. and M.D. Aberd., medical officer of health of Leith. The appointments of university assistants to the respective professors have also been made.—The Anderson travelling scholarship, value £170, tenable for two years, has been gained by Mr. J. J. R. Macleod.

Extension of Aberdeen City Hospital.

Tradesmen's offers have just been accepted for the carrying out of additions at this hospital at a cost of about £4500. The alterations consist of additions to the administrative block to provide additional accommodation for the nurses and servants and properly-equipped discharge rooms. There will also be an addition to the diphtheria block.

Whooping-cough in Aberdeen.

The epidemic is increasing, 378 cases with 14 deaths having been reported to the local authority for a month past, as compared with 276 cases with 8 deaths in the preceding month.

Corporation Baths, Aberdeen.

The new swimming pond, 90 ft. long by 35 ft. wide, at Aberdeen sea-bathing station was opened last week. There was an aquatic gala at which a large number of medical practitioners were present. The new wing for small baths is hardly finished. The total cost to date (including half a mile of esplanade) is £12,000.

July 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Richmond District Lunatic Asylum, Dublin.

AT a meeting of the governors of the Richmond Asylum held on July 14th, the report of the resident medical superintendent, Mr. Conolly Norman, for the year 1897 was laid before the board. Referring to the fact that phthisis is the most frequent cause of death in the institution the report says: "Consumption will remain unduly frequent and mortal in the asylum until such time as there is an isolation hospital where the sufferers from this disease can be treated apart." Alluding to the serious prevalence of beriberi during the year 1897 the report states that at the opening of the period under review 25 men and 36 women presented symptoms of the disease, which in several cases persisted during the year. Fresh cases began to come in in June so that the number before the close of the year was 238 among the patients and 8 among the staff of attendants. Besides these, the chief nurse of the infirmaries, who suffered in 1896, had a relapse of the disease in 1897.

The Medical Officers of the South Dublin Union.

At a meeting of the board of the South Dublin Union held on July 14th a memorial was read from eight medical officers of the union requesting that an increase be made in their salaries so as to raise them to the level of those paid at present to the medical officers of the North Dublin Union. The matter will be decided at the next meeting of the board of guardians.

The Royal Hospital for Incurables, Dublin.

At a meeting of the Committee of Management of this

hospital held on July 14th Mr. John Lentaigne, F.R.C.S. Irel., was coöpted a member of the committee in the room of the late Mr. Edward Fottrell.

The Infectious Diseases Hospital, Belfast.

The Public Health Committee of the Corporation have decided to postpone any action regarding the erection of the infectious diseases hospital, which they proposed to locate at Purdysburn, until after the Local Government Bill becomes law, as the position of affairs may then warrant a change in the arrangements.

The Proposed New Asylum for County Londonderry.

At a meeting of the board of governors, held on July 15th, the committee who were appointed to consider the plans for the new asylum recommended the board to accept them, the opinion of the architects being that for £110,000 the asylum can be completed. The chairman (the Right Hon. Sir Hervey Bruce, Bart., D.L.) said if the board accepted this report they would be acting illegally and the board of control would have to interfere, and another governor asked what guarantee the architects could give that the asylum could be built for the sum mentioned. The chairman (who said he looked upon the whole course pursued as perfectly illegal) and two other members of the board having left the meeting, the Mayor of Derry was moved to the chair and it was decided to adopt the plans, those opposing being of opinion that it would be wiser for a moribund board to drop the matter and leave it to the new county council.

Death of Mr. David Kilpatrick Given, L.R.C.P. Edin., L.F.P.S. Glasg.

Much regret is felt in Drumquin at the sudden death of Mr. Given, which took place at his residence there on July 16th. The deceased was dispensary medical officer of the district and was greatly beloved by his patients and very popular amongst the inhabitants of the district. The coroner having ascertained that Mr. Given's sudden death was due to heart disease did not think it necessary to hold an inquest. Mr. Given's brother is dispensary medical officer of Gortin district.

Return of another Lady Guardian in Belfast.

Miss F. F. Clarke, who was the candidate of the Society to Brighten Workhouse Infirmary Life, has been returned after a contested election for Cormac Ward, Belfast. There are now three lady guardians in the Belfast Union.

Close of the College and Hospital Session in Belfast.

The Summer Session of the Belfast Medical School has now ended both at college and at the hospitals. A large number of medical men in Belfast are going to the Edinburgh meeting of the British Medical Association, the relationship between the two schools (Belfast and Edinburgh) being a close one.

July 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Hæmatozoon of Goitre.

A MEETING of the Academy of Sciences was held on July 4th, when M. Grasset gave an account of his researches among persons afflicted with goitre. Knowing the department of Puy de Dôme was that where cases of goitre were the most common he went there, and after studying the question arrived at the following conclusions. Goitre is not a local affection but a general one, with one predominating symptom—namely, an enlarged thyroid. Just as the enlarged spleen is the predominant symptom in malaria so the enlarged thyroid is the predominant symptom in goitre. There is a curious parallel also between malaria and goitre. Both have a special geographical distribution; both affect mainly a gland having an internal secretion; and in both when they reach an extreme degree cachexia supervenes—in the one case the well-known malarial cachexia and in the other cretinism. M. Grasset examined the blood from eight persons who suffered from recent goitre and was able to demonstrate the presence of a parasite. It showed in the form of spherical segmented bodies, larger in size than a red corpuscle, and recalled the hæmatozoon of malaria.

The Treatment of Lupus by Injections of Calomel.

On July 7th M. du Castel showed at the Society of Dermatology two patients suffering from tuberculous lupus of the face who had been treated during the past six months by injections of calomel after the method of Asselbergs. The good results of this treatment were very marked. M. Gaucher considered that as a rule cases of lupus cured by mercurial injections were errors of diagnosis. M. Brocq had seen in one case the mass of lupoid infiltration diminish under this treatment, but he did not know whether the result was permanent. In another case he had seen some amelioration, but afterwards the lesions remained in a stationary condition and it became necessary to attack them with the cautery; he thought, too, that the patient was syphilitic. M. Fournier was of opinion that an occasional case of wrong diagnosis might occur, but he considered that there was possible association between lupus and syphilis Anti-syphilitic treatment certainly brings about a considerable, if fleeting, improvement in cases of lingual epithelioma. Lupus in a syphilitic patient is probably seriously modified by the soil on which it grows, and this is probably the key to the results obtained by Asselbergs.

The Action of Liquid Air upon Monocellular Organisms and their Secretions.

At the meeting of the Society of Biology held on June 9th M. D'Arsonval referred to some researches which he had made with regard to the action of liquid air upon sundry tissues and upon mucous membranes. Actual contact did not take place and the substance could be introduced into the stomach. M. D'Arsonval had offered a guest some liquid air mixed with champagne and he, without waiting till the champagne thawed, swallowed the whole glassful containing about 15 c.c. of liquid air. After a few moments his stomach was acutely distended, but a sudden violent expulsion of food and gas relieved this condition. If liquid air be poured upon the hand it assumes the spheroidal state and breaks up into globules which scatter in various directions. It has been proposed to employ it in diving operations, for a diver carrying a litre of liquid air upon his back would have 1000 litres of air to breathe. M. D'Arsonval also placed in liquid air some dried bacilli and bouillon cultures of diphtheria and the bacillus pyocyaneus. In one case they were there for six days and nights until the air evaporated. He then sowed the cultures on agar and found that contrary to what he had expected the liquid air had very little effect. Growth went on regularly, the individual bacilli were slightly damaged, and the only marked modification was that the bacillus pyocyaneus had lost its chromogenic power—a modification which, of course, is not of the least importance.

Erysipelas brought on by Inoculation with Pus from a Streptococcic Empyema.

At the meeting of the Hospitals Medical Society held on July 8th M. Menetrier reported a personal observation. While dressing a patient suffering from empyema he scratched his ear, just drawing blood. Six or eight hours afterwards the ear began to smart and some days later the whole ear exhibited an acute inflammatory condition presenting all the appearances of erysipelas. The hairy scalp was invaded and the temperature rose to between 38° and 39° C. Having gone out too soon he had a relapse and this time the face was attacked, but he got well without any special treatment. Bacteriological examination of the fluid from the empyema showed that the streptococci therein were but feebly virulent. M. Nettier considers that this case bore out the experiments made in the laboratory of Koch, where it was found that to produce erysipelas in man streptococci greatly attenuated must be injected.

Removal of the Superior Cervical Ganglion for Acute Glaucoma.

At the meeting of the Ophthalmological Society held on July 5th M. Abadie showed a patient who had consulted him for acute hæmorrhagic glaucoma of the left eye and from whom he had already removed the right eye on account of the same disease. The case was one of those in which the surgeon is apparently quite powerless. The patient, after suffering intolerable agony for seventeen hours, demanded that his left eye should be removed as well. M. Abadie, however, removed the superior cervical ganglion of the left side instead and on the same evening the pain ceased. Fifteen days after this operation the condition of the eye had sensibly improved. It is therefore allowable, M. Abadie considers, in cases of this kind, where there is nothing else to do except enucleation, to remove the superior cervical ganglion. This case confirms the general theory of glaucoma—that is to say, that glaucoma is not a

vascular affection but that it springs from a stimulation of the vaso-dilators of the eye, a stimulation which goes on even to rupture. M. Valude then remarked that he had known the patient, having attended him and having performed the first operation four years ago. M. Valude had observed in these cases remissions of the same kind as had occurred in the left eye; these remissions occurred spontaneously, so to speak, but on one occasion after the application of an opium poultice. As these remissions were spontaneous or coincided with the application of domestic remedies he said that they could not definitely conclude whether the operation which M. Abadie referred to had done good or not. M. Despaguet mentioned the case of a patient who had suffered from hæmorrhagic glaucoma and had had her eye enucleated. She died from cerebral hæmorrhage, the same process having occurred in the brain which occurred in the eye. This point, he considered, was a proof of the vascular origin of glaucomatous affections.

July 19th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Anti-Rabies Institute.

IT has been proposed by some members of the public that the Government of Egypt should attach a Pasteur institute specially for rabies either to the medical school or to the hygiene institute of the sanitary department. But the Government authorities, before entertaining any such idea for the treatment of bitten folks, are doing what they can to persuade the European consuls-general of the importance of preventing the disease as far as possible. Quarantine ought to be imposed on fresh arrivals, a tax should be levied on dogs, and all stray dogs, whether native or European, should be impounded by the police and destroyed if ownerless. But for all such regulations the consent of all the Powers must be obtained, and this is no easy matter. The police in Cairo alone now kill between 2000 and 3000 stray dogs every year, but this is not enough as there are always a few wandering pariahs to be seen. It is difficult to see how any legislation can be directed against wolves, jackals, and even cats. In the early days of the British occupation there were thousands of pariah dogs in Cairo and we used to be told on all sides that rabies was unknown, but in 1886 a fox terrier at Abbassiyeh belonging to a British soldier broke the record by being the first case. Since that time every year cases among human beings or among dogs have been reported and verified. Besides many doubtful cases the whole number up to last month comprises 36 dogs, 2 wolves, 3 horses, 2 mules, and 60 human beings, all fatal, scattered over Egypt. Since 1893 several bitten people have gone to Paris or to Athens to be treated, and this year already 9 persons out of 15 bitten have gone to the Athens Institute. These figures are enough to show that preventive measures are required.

Native Remedies for Hydrophobia.

Though there are no medical accounts of rabies in times past there are plenty of supposed cures which make it appear as if the disease were well known. Papyri contain mention of the dangers of a bite from serpent, crocodile, or dog. Charms were sold in old days to protect from these three and there is a folk lore story where the wicked fairy condemned the heir at his birth to be killed by one of these three biting creatures. He destroyed a serpent who attacked him and he and his favourite hound killed a crocodile, but the master died in consequence of an accidental bite from the dog during the fight. The modern treatment for a person bitten by a presumably mad dog in Upper Egypt is to kill the dog, extract the spinal cord, bruise the cord with pestle and mortar until a paste is made, and then rub the patient's body all over with paste. Sometimes, too, they burn the dog's hair and apply the ashes to the bite. The Bedouin make the patient eat the raw liver of the dog, and this is done, too, in the Haussa State of the Western Soudan.[1] In Lower Egypt the favourite remedy has been acquired from the Syrians of Mount Lebanon. It is the *Mylabris punctata*, a dark-blue beetle used instead of cantharides and well known in the south of France and Spain. When taken by the patient it produces strangury, and the old women pretend that if the dog be mad the patient's urine will contain dog-like growths each of about the size of a barleycorn.

[1] See THE LANCET, May 18th, 1895, p. 1274.

The Assuan Reservoirs.

The latest news from Assuan tells of a shade temperature of 124° F. beating on the rocks and of the death from sunstroke of an Englishman there. He was superintending the 800 men who are already working for the future reservoirs. Next winter there will be ten times as many labourers and many European inspectors, all of whom will require medical help.

Veterinary Report for Alexandria.

The municipality in its annual report draws attention to the fact that out of 116,439 animals killed in the slaughter-house during 1897 nearly half came from foreign ports, such as Tripoli, Syria, Russia, and Cyprus. This is one of the reasons why quarantine measures have to be strict for all cattle arriving in Egypt, and all entry of Syrian cattle has now been forbidden in consequence of the numerous cases of rinderpest. Several ideas are to be carried out for the better inspection of meat in the town and also for its local transport and a scheme has been approved for cooking at the slaughter-house itself meat which by reason of its parasites is dangerous for consumption only in its raw state. 39 horses and 4 mules suffering from glanders were killed during the year and great praise is given to the use of mallein, which was injected into 197 horses. During the present year it is intended to inject all the horses, mules, and donkeys in Alexandria with mallein to stamp out glanders entirely. The veterinary surgeon has proposed some very stringent laws with regard to tuberculosis of animals and compulsory inoculation of all cows with tuberculin, but these measures have not been adopted by the municipality.

Work at the Barrage.

Two additional weirs across both the Damietta and Rosetta branches of the Nile have now been begun, though, of course, the work can only be carried out during low Nile. Half a million pounds are to be expended, and besides strengthening the two barrages the new weirs will allow 5 ft. extra of water to be held up for the benefit of the three important canals which branch off from the barrage to the Delta. It is calculated that this will make no practical difference to the velocity of the Nile at Cairo, which is already reduced by the barrage from nine miles to seven miles a day during the month of lowest Nile. This year's Nile is late and bids fair to be a poor one.

Cairo, July 6th.

Obituary.

DUNCAN JAMES CADDY, M.D. DURH., F.R.G.S.

DR. CADDY, who died at his residence, 4, Earl's Court-gardens, S.W., on July 5th, was educated at the Merchant Taylors' School. Leaving there he proceeded to King's College, London, where he entered as a medical student in 1889. He graduated at Durham University in 1892 and took his degree as Doctor of Medicine in 1894. In the same year he was elected a Fellow of the Royal Geographical Society. Subsequently Dr. Caddy joined H.M. Colonial Medical Service and did good service in the West Indies. During his appointment there, at a great risk of his life, he saved a native from drowning and afterwards received from the Royal Humane Society its bronze medal for his gallantry. He was kind and courteous to all his patients, respected by everyone who knew him, ever anxious to help all and greatly esteemed. His death at an early age cuts short the promise of a brilliant career.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Hugo Gerold, formerly Professor in the University of Giessen, a post which he subsequently exchanged for a large practice in Gotha. Since his retirement he has been in Halle, where he died at an advanced age, having graduated in 1835. He was a frequent contributor to medical literature, especially on ophthalmic topics.—Dr. Ernst Candèze, Superintendent Physician of the Glain Lunatic Asylum near Liège, who was well known in scientific circles on account of his numerous original papers on entomology.—Dr. Page, Professor of Medicine in the New York Polyclinic.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE. — *Berlin*: Dr. Victor Meyer has been recognised as *privat-docent* of Laryngology.—*Bonn*: Dr. Heinrich Walb has been promoted to an Honorary Professorship of Otology.—*Gratz*: Dr. Victor Fossel has been appointed Extraordinary Professor of the History of Medicine.—*Leipsic*: Dr. Martin Ficker has been recognised as *privat-docent* of Hygiene and Bacteriology. —*Moscow*: Dr. Pokrovski has been recognised as *privat-docent* of Pathological Anatomy.—*Odessa*: The organisation of the newly-established medical faculty has been entrusted to Dr. Podvisotski, Professor of General Pathology in Kieff, who is to be the first Dean of the Odessa Medical Faculty.—*Padua*: Dr. Dante Cervesato has been promoted to the Ordinary Professorship of Children's Diseases.—*Prague*: Dr. Ivan Honl, Assistant in the Bohemian Institute for Pathological Anatomy and Bacteriology, has been recognised as *privat-docent* of Bacteriology. — *Vienna*: Dr. Alexander Kolisko, Extraordinary Professor of Pathological Anatomy, has been promoted to the Ordinary Professorship of that subject in succession to the late Dr. M. E. von Hofmann; Dr. Rudolf Gruber has been recognised as *privat-docent* of Ophthalmology.

SWANSEA HOSPITAL. — The report of the Swansea Hospital for the year ending March 31st, 1898, shows that the expenditure during the year was £5159 and the income £4634. The deficiency at present amounts to £525. The report adds that the building is too small for the number of patients and that £2845, derived from the Guesdon Trust, has been spent upon improvements, including the heating of the operating theatre.

THE DENTAL HOSPITAL OF LONDON. — The annual conversazione and prize distribution connected with this institution was held at the Royal Institute Galleries, Prince's Hall, Piccadilly, on Tuesday last. The Right Hon. Lord Ludlow delivered an interesting though somewhat discursive address on scientific advance during the Victorian era with special reference to surgical and dental progress. The noble and learned lord held that surgical science had outstripped medical science in the race, and that the refinements of modern dentistry might trace ither birht to the time of the discovery of antiseptics and anæsthetics. The evening concluded with an interesting musical entertainment.

THE LONDON HOSPITAL MEDICAL COLLEGE.—Mr. Douro Hoare, chairman of the College, on Monday last distributed the following prizes: Price Scholarship in Science (£120), Mr. J. Jones. Price Scholarship in Anatomy and Physiology (£60), Mr. R. Warren. Entrance Science Scholarships: £60 scholarship, Mr. R. V. Dolbey; and £35 scholarship, Mr. T. Williams. Buxton Scholarships—Arts: £30 scholarship, Mr. M. Culpin; and £20 scholarship, Mr. G. Rodolph. Clinical Medicine: £20 scholarship, Mr. A. F. Tredgold; honorary certificates, Mr. W. E. Heilborn and Mr. C. White. Clinical Surgery: £20 scholarship, Mr. R. Howard and Mr. G. R. Slade (equal, scholarship divided); honorary certificates, Mr. E. Frazer and Mr. C. Pike. Clinical Obstetrics: £20 scholarship, Mr. J. Sherren; honorary certificates, Mr. R. C. B. Wall and Mr. D. J. Thomas. Andrew Clark Prize: honorary certificates, Mr. R. C. B. Wall, Mr. A. F. Tredgold, and Mr. C. White.

ROYAL VICTORIA COTTAGE NURSING HOME.—On July 12th the Duchess of Albany opened at South Ascot a new parochial institution which has been erected as a memorial of the Queen's Diamond Jubilee and has been named, by permission, the Royal Victoria Cottage Nursing Home. It serves the double purpose of a cottage hospital and a home for parish nurses employed on the Holt-Ockley system, by which patients contribute according to their means towards the cost of their nursing in time of illness. The originator of the movement is Mrs. Liddell, widow of the late Dr. Liddell, Dean of Christchurch and author, together with Dean Scott, of the well-known Greek Lexicon. Part of the site was given by the late General Crutchley and the other half by Dean Liddell. The building has been erected at a cost of about £2200, the architect being Mr. William Menzies, of Englefield Green, Surrey. It contains three wards and accommodation for seven nurses. The medical staff consists of Dr. G. E. Barron, Dr. A. G. Paterson, and Mr. A. G. Lacy.

DEVON COUNTY ASYLUM.—Dr. G. J. Symes Saunders has just resigned the post of resident physician and medical superintendent of the Devon County Lunatic Asylum, Exminster, Exeter, which he has held for nearly forty years, succeeding the late Sir John Bucknill, M.D. The appointment rests with the Devon County Council.

BEQUESTS AND DONATIONS TO HOSPITALS.—The committee of the Westminster Hospital has received £300 from the trustees of Smith's (Kensington Estate) Charity.—The committee of the City of London Hospital for Diseases of the Chest, Victoria Park, has received £105 from Messrs. Charrington and Co.; also £200 from the trustees of Smith's (Kensington Estate) Charity; also £155 from the employés of the Great Eastern Railway Company.—The committee of the North-West London Hospital, Kentish-town-road, has received £200 from the trustees of Smith's (Kensington Estate) Charity. —The committee of the North London, or University College, Hospital, Gower-street, has received £100 from Mr. Samuel Mills.—A donation of £1000 has been received by the committee of the King's College Hospital, London, for endowment of a bed in memory of the late Mr. H. P. Vulliamy.

DIPHTHERIA IN LONDON.—In the two weeks ended on Saturday, July 9th, the registered deaths from diphtheria in London continued to be considerably under the corrected decennial averages for the particular weeks. In the former, ended on July 2nd, the recorded deaths numbered 29, following upon 23, 26, and 21, the respective totals of the three weeks preceding. The corrected average for the corresponding week of the years 1888–97 was 37 deaths. All the 29 deaths were of young people under twenty years of age, 16 being of children aged under five years, of whom 3 were infants. Poplar was credited with 4 deaths. The close of the week found 976 diphtheria patients still under isolation in London hospitals, the admissions in the week having been 120, against 130, 134, and 126 in weeks immediately preceding. In the Outer Ring there were registered 11 diphtheria deaths, of which 3 occurred in West Ham district. In the succeeding week the registered deaths from the disease in London were 27 in number, being as many as 13 below the corrected decennial average. Five belonged to Poplar and 3 to Shoreditch parish. All the deaths were of young persons aged under twenty years, of whom 16 were children aged under five years, 4 being infants. In the Outer Ring there were 10 deaths registered from the disease, 4 belonging to Hendon and 3 to West Ham districts. Last week the registered deaths from the disease in London rose again, the number having been 39, of which all but one were of persons aged under twenty years, 24 being of children under five years of age. Five deaths belonged to Lambeth, and 4 each to St. Pancras and Islington. In the Outer Ring 9 deaths were registered, of which 3 occurred in Richmond and 3 in Hendon registration districts.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL. The presentation of scholarships, medals, prizes, and certificates took place at this school on Wednesday last, Mr. T. McKinnon Wood, the chairman of the London County Council, presiding. Dr. Montague Murray, the Dean of the school, in submitting his report took occasion to refer to the appointment of Mr. Mackenzie Davidson to the superintendence of the Roentgen ray department and to the resignation of Dr. Watt Black, who has been lecturer on midwifery for twenty-nine years and treasurer of the school for eight years. He has been succeeded in his lectureship by Dr. Amand Routh and in the treasurership of the school by Mr. J. H. Morgan. During the year a new bacteriological laboratory had been opened. A recreation ground had been presented to the students club by Mr. E. J. Churchill. Attention was also directed to the many useful societies organised by the students, and the past academic year was a satisfactory record of successes in the examination room. The report closed with the announcement, which has already appeared in our columns, that Professor Virchow had consented to open the next winter session with the delivery of the second Huxley Lecture, which had been founded three years ago to commemorate the fact that Huxley had received his medical education at Charing-cross

Hospital. On the occasion referred to the chair will be taken by Lord Lister, P.R.S. Mr. McKinnon Wood having presented the prizes addressed the students in suitable terms. He congratulated them on their success. Referring to the work of the London County Council he pointed out that in one direction their aims were one and the same with the medical profession. Both combined to diminish the death-rate. He referred also to the interest taken by the council in two points of view of hospital work—that of the care of poor patients and of the educational value of such institutions to the medical profession. Sir Joseph Fayrer proposed a vote of thanks to the chairman, which was seconded by Mr. Morgan. The Llewellyn prize, the governor's gold medal, and the senior prizes for medicine, surgery, practical midwifery, and public health were awarded to Mr. P. L. Daniel. Mr. E. F. Ackery secured the Huxley medal, Mr. S. A. Boyd the Golding prize, and Mr. E. L. Lilley the Pereira prize.

BRISTOL AMATEUR DRAMATIC WEEK. — The accounts in connexion with the recent amateur week at the Prince's Theatre, Clifton, in aid of the Bristol medical charities show that, although £487 were taken as a result of the performances, after paying all expenses only £36 10*s.* remained to be divided amongst the charities.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The General Medical Council and Unqualified Assistants.

MR. LOGAN has given notice of the following question for Tuesday, July 26th, viz.:—"To ask the First Lord of the Treasury if he is aware that in December last the General Medical Council passed a resolution disapproving of the employment by medical men of unqualified assistants, in consequence of which a large number of such assistants who have been trained for the medical profession, many of whom have families, are and will be deprived of the means of obtaining a livelihood; and if there are any means whereby he can intervene and provide that those now or recently so employed shall be permitted to continue their vocation."

HOUSE OF COMMONS.

THURSDAY, JULY 14TH.

Lead-poisoning in the Potteries.

Mr. DRAGE asked the Home Secretary whether he could give any statistics showing the effect of employment in the dangerous processes in potteries on the health of women and their children as well as on the health of young persons.—Sir M. WHITE RIDLEY: I am not aware what kind of statistics the hon. Member has in his mind. There are many recorded instances which amply prove that in the pottery trade, as elsewhere, the occurrence of lead-poisoning in the mother is capable of producing grave effects upon the child. The total number of recorded cases of lead-poisoning among women and girls engaged in the manufacture of earthenware and china during the two and a half years since the Act of 1895 came into force is: women, 528; girls, 63—a yearly average of about 230. The number of females employed in Staffordshire was 20,705.—Mr. DRAGE asked the right hon. gentleman whether he could give any statistics comparing the health of workpeople in potteries where mechanical ventilation has been introduced with the health of workpeople employed in potteries without mechanical ventilation.—Sir M. WHITE RIDLEY: I am afraid I have no statistics of the kind and it would be difficult to obtain them. The great improvement effected by the introduction of mechanical ventilation is sufficiently evident, and one of the points aimed at in the new rules I am taking steps to establish is the more general adoption of fans in all dusty processes in potteries.—Mr. WOODALL: May I ask the right hon. gentleman whether he will consider the practicability of informing the House as to the proportion of cases in which lead-poisoning has been certified by a medical practitioner whose report has afterwards been found to be unfounded?—Sir M. W. RIDLEY: Every information of that kind I am now endeavouring to obtain. It is a very difficult question, but I will bear it in mind.

Tuberculosis.

Mr. CHANNING asked the President of the Board of Agriculture whether he had considered the Report of the Commission on Tuberculosis as regards the successful adoption of the policy of gradual elimination of tuberculosis by the use of the tuberculin test in Denmark and elsewhere; whether he would take steps to carry out the recommendation of the Commission that properly prepared tuberculin and the services of veterinary surgeons should be provided by the State to enable agriculturists in this country to adopt the policy of elimination; and whether he would apply to the Treasury to sanction the small grant of £5625 per annum which the Commission think sufficient to initiate this policy.—Mr. WALTER LONG: I am afraid that as yet I can add nothing to what I said in reply to the question addressed to me on this subject in April last, except that since that time the report of the Royal Commission has been fully considered by the Central Chamber of Agriculture and that no desire whatever was then manifested for the provision of facilities for the application of the tuberculin test. It is clear, I think, that I could not approach the Treasury on the subject with any hope of success until there is evidence that agriculturists really wish that their cattle should be subjected to the proposed test on the conditions suggested by the Commission.

Gallant Conduct of Surgeon-Lieutenant Hugo.

Sir WALTER FOSTER asked the Secretary of State for India whether his attention had been called to the gallant conduct of Surgeon-Lieutenant Hugo, of the Malakand Field Force, under the following circumstances:—Lieutenant Ford was dangerously wounded in the shoulder and was bleeding to death from the bullet having cut the main artery when Surgeon-Lieutenant Hugo came to his aid. The fire was too hot to permit lights to be used to examine the wound and there was no cover, nevertheless, the surgeon struck a match and examined the wound. The match went out amid a splutter of bullets, which kicked up the dust all round, but by its uncertain light he saw the nature of the injury and seized the bleeding artery and, as no ligature was available, he remained for three hours under fire holding the vessel between his finger and thumb. When at length it seemed that the enemy had broken into camp he picked up the officer, who was unconscious from loss of blood, and bore him into a place of safety without relaxing his hold of the artery; and whether the authorities had taken steps to reward suitably this splendid act of devotion.—Lord GEORGE HAMILTON: The officer who performed the gallant action referred to in the question was Surgeon-Lieutenant J. H. Hugo, who for his services in the late campaign has received the decoration of the Distinguished Service Order.

The Hospital at Aden.

Mr. MOON asked the Secretary of State for India whether any English nurses had been engaged for the hospital at Aden; and whether the Government of India or the Admiralty would pay their salaries.—Lord GEORGE HAMILTON: I am not aware whether any British nurses have yet been engaged for the hospital at Aden, but I am in communication with the Government of India on this subject, as also regarding the proportion of their salaries to be paid by the Admiralty and Port funds respectively. The latter point to a large extent regulates the class of nurses to be engaged.

Prosecutions for Illegal Operation.

Mr. PICKERSGILL asked the Attorney-General, with reference to the recent trial of Dr. Collins at the Central Criminal Court on an indictment for wilful murder, when the Attorney-General, who prosecuted for the Crown, while presenting the death as due to a felonious act done by the prisoner, invited the jury to return a verdict of manslaughter only, and they accordingly did so, whether, with a view to regularise such verdicts, he would consider the propriety of introducing an amending Bill, so that a person who without an intention to injure kills another by a felonious act not likely in itself to cause death or grievous bodily harm may be regularly convicted of manslaughter and not of murder.—The ATTORNEY GENERAL (Sir RICHARD WEBSTER): In my opinion there is no need for any such amending Bill. The law, as I endeavoured to express it on the occasion to which the hon. Member refers, has been laid down more than once by distinguished judges in charging the jury.

FRIDAY, JULY 15TH.

Yellow Phosphorus in the Match Trade.

Mr. STEADMAN asked the Home Secretary if he would inform the House what steps he was taking to inquire into the deadly use of yellow phosphorus in the match making trade, and, if so, would he report the result of such inquiries at the earliest opportunity.—Sir M. WHITE RIDLEY: The steps taken are, very briefly, these: every match factory in the country has been specially visited and reported on by the factory inspectors; many of them also, so far as the employment of women is concerned, by the lady inspectors. Inquiries are being made through the Foreign Office as to the measures adopted and results obtained in foreign countries. Further, the question is being investigated on the scientific side by two distinguished experts—Dr. Oliver and Dr. Thorpe—the former of whom has already visited the chief match factories in France and made a special report; and from the dental point of view by Mr. George Cunningham, dental surgeon of the London Hospital, who has already made a preliminary report, and whom I propose to send to France to continue his inquiries in the French manufactories. I shall as soon as possible communicate to the House the result of these investigations.

The Case of Dr. Lynch of Walsall.

Mr. SYDNEY GEDGE asked the First Lord of the Treasury, as representing the Lord Chancellor, on what grounds and on whose recommendation a medical practitioner at Walsall named John Joseph Lynch has recently been made a magistrate of that borough, the following statement of facts respecting Dr. Lynch having been on the 5th instant admitted by the Home Secretary to be correct—viz., that Dr. Lynch did in December last certify that a boy named William Charles Young died from natural causes although he had not seen the boy for a month before his death and another doctor had attended him in his last illness; that on the inquest the jury found that the boy had died from swallowing a halfpenny, and that, in consequence of this and of a further representation made to the Registrar-General officially by the town clerk of Walsall, the Registrar-General directed the superintendent-registrar there to treat all certificates given by Dr. Lynch of deaths from natural causes as equivalent to certificates of death with a view to his holding inquests in such cases; and was the Lord Chancellor aware that Dr. Lynch was under this stigma when he was selected as worthy to be placed on the judicial bench; and whether, now that his lordship's attention had been called to the fact, he would take steps to remove Dr. Lynch from the bench.—Mr. BALFOUR: I am informed by the Lord Chancellor that, following out the principles observed by all his predecessors, he thinks it is undesirable to state the grounds for an appointment to the bench or the sources of information on which it is made further than to state that he has satisfied himself as to the facts on authority in which he has entire confidence. If any facts are brought to his notice establishing *prima facie* any misconduct on the part of Dr. Lynch the Lord Chancellor will, in accordance with the usual practice, inquire into them and give Dr. Lynch an opportunity of explanation.—Mr. SYDNEY GEDGE: The last part of the question has not been answered—whether the Lord Chancellor was aware of the stigma that

rested upon Dr. Lynch when he made the appointment and whether, now that his lordship's attention has been called to the matter, he will take steps to remove Dr. Lynch from the bench. I may add that the appointment is causing great agitation.—MR BALFOUR: I have no information as to the state of the Lord Chancellor's information when he appointed Dr. Lynch. The last question I have already answered.

MONDAY, JULY 18TH.

Army Medical Service.

Captain NORTON asked the Under Secretary of State for War whether he could state if officers of the Army Medical Staff were obliged to retire at an earlier age than combatant officers although they entered the army several years older on an average; whether the rule regarding promotion to the rank of major-general had been applied to medical officers to the extent that they were ineligible for promotion after attaining the age of fifty-seven years; and why the rule permitting all major-generals to serve on to sixty-two was not also made applicable to all surgeon-generals, seeing that such an extension of service would be economical to the State.—Mr. BRODRICK replied: In the combatant ranks colonels retire at fifty-seven years of age and major-generals at sixty-two. In the Army Medical Staff the age of sixty holds for both ranks. The medical officers have therefore the advantage of three years in one rank while they lose two years in the other. Medical officers are not ineligible for promotion to the rank of surgeon-general after the age of fifty-seven if recommended by the Promotion Board as possessing exceptional abilities. As a general rule, however, promotion to the rank of surgeon-general is only given to officers who have at least three years to serve. The Secretary of State is advised that having regard to all the conditions involved it would not be desirable to extend the rule under which major-generals are allowed to serve on to sixty-two to all surgeon-generals.

Habitual Inebriates Bill.

This Bill, as amended by the Grand Committee on Law, was considered and on the motion of the Home Secretary a new clause was inserted giving power to recover expenses against the estate of the inebriate. Thereafter the Bill was read a third time.

TUESDAY, JULY 19TH.

The Physic Garden at Chelsea.

Mr. WHITMORE asked the honourable Member of the Thirsk Division of Yorkshire, as a Charity Commissioner, whether he was aware that the Society of Apothecaries had resolved that it could no longer maintain the Physic Garden at Chelsea, and whether, in view of this decision and in order to preserve this ancient garden, the Charity Commission would be willing to sanction its acquisition by the governing body of the City Parochial Charities and its subsequent maintenance by them as a botanical garden.—Mr. GRANT LAWSON, in reply, said that the Society of Apothecaries as trustees of the Physic Garden at Chelsea, had applied to the Charity Commissioners for the establishment of a scheme for the future administration of the trusts regulating the garden which was now maintained at the charge of their corporate funds and they desired to be relieved from the trusteeship. The Commissioners had received from the trustees of the London Parochial Charities an offer to undertake the trusteeship of the garden and to make a provision for its maintenance for the purpose of botanical study which appeared to be sufficient for the purpose. The Commissioners accordingly proposed to publish a scheme giving general effect to these proposals.

The General Medical Council and Irregular Practice.

Dr. FARQUHARSON asked the Chancellor of the Exchequer whether, having regard to the fact that a sum of £5000 a year of public money was paid to the council of the Incorporated Law Society to assist them in purifying the legal profession, he could see his way to make a similar grant to the General Medical Council to enable them to undertake the prosecution of irregular medical practitioners.—Sir MICHAEL HICKS-BEACH replied that the sum of £2500—not £5000—was voted to the Incorporated Law Society for this purpose. It was a very small fraction of the yield from the special duty on solicitors' certificates which went to the Exchequer. No such tax was imposed upon medical practitioners and therefore no question of a similar grant arose.

Accommodation for Epileptics.

Sir MANCHERJEE BHOWNAGGREE asked the President of the Local Government Board when the arrangements for providing further accommodation for imbecile children who are epileptic, which were stated by him recently to be under the consideration of the Metropolitan Asylums Board, were likely to be completed and whether he was taking any steps to provide such accommodation for emergent cases pending the completion of the arrangements.—Mr. CHAPLIN: The arrangements which the managers of the Metropolitan Asylum District have under consideration for providing further accommodation for imbecile children who are epileptic are dependent on their acquiring the buildings of the South Metropolitan School District at Sutton. Negotiations for this purpose are in progress, and I believe are proceeding satisfactorily. It will devolve on the guardians to provide for the cases of children of the class referred to who may become chargeable on the rates when they cannot be admitted to the asylums of the managers.

The Vaccination Bill.

On the question that the Vaccination Bill as amended by the Grand Committee on Law be now considered, Mr. PICKERSGILL moved as an amendment that it be considered on this day six months. He and several members who think with him delivered speeches condemning the measure as a whole, but after a time they withdrew the amendment and allowed the consideration of the Bill to proceed.

Sir WALTER FOSTER moved to insert as a new clause the following, viz.:—"Where a child is by the Act required to be vaccinated within six months from the birth of the child, the parent or person having the custody of the child may, not less than two months before the expiration of six months from the birth of the child make a statutory declaration of conscientious objection to the vaccination of the child, before not less than two magistrates in petty sessions, and if the statutory declaration is within seven days after its date delivered to the vaccination officer for the district in which the child resides the vaccination officer shall register the same and shall, if required, deliver to the parent or other person making the declaration a certificate of such registration, and thereupon an order shall not be made or proceedings taken with reference to the non-vaccination of the child mentioned in the certificate." He pleaded, as he did before the Grand Committee, that such a provision as this for conscientious objection was in the interests of vaccination, being calculated to get rid of the "vaccination martyr" and reduce irritation and agitation throughout the country.

Mr. CHAPLIN opposed the clause.

Sir WILLIAM HARCOURT and Colonel LONG spoke in its support.

Sir WILLIAM PRIESTLEY said he could not vote for it because he regarded it as tantamount to abolishing compulsory vaccination altogether.

Dr. FARQUHARSON supported the clause, saying that the Parliamentary Bills Committee of the British Medical Association, which represented the boiled-down Parliamentary wisdom of the profession, favoured it.

Dr. CLARK also spoke in favour of the clause.

After the debate had gone on for several hours Mr. BALFOUR addressed the House. He suggested as a means of sifting out the genuine objector and distinguishing him from the sham one—the aim which they all had in view—that it should be regarded as a complete defence if a parent when brought before the court could show that he had genuine and conscientious objections to the process of vaccination. He should ask the House, if it was prepared to accept that view, to make the experiment only for five years, because great weight ought to be attached to the report of the Commissioners, who, while advising unanimously that penalties should be abandoned in the case of the conscientious objector, were so conscious that the experiment might prove a perilous one that they suggested that it should be temporary in its operation. The form of clause he would propose was: "No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Act of 1867 if he satisfies the court that he conscientiously believes that vaccination would be prejudicial to the health of the child and that the failure to have the child vaccinated has been and is due solely to such conscientious belief on his part." There would be a subsection: "Proceedings under the said Section 31 shall be taken only once in respect of the same child, and not until such child shall have attained the age of four years." Then at the end of Clause 10 he should add these words: "The Bill shall remain in force until Jan. 1st, 1904." He put this proposal forward as a compromise and he hoped it would be accepted by the House.

Sir WILLIAM HARCOURT suggested that members should have a little time to consider the exact effect of the proposal.

With this object the debate was adjourned until the following day.

WEDNESDAY, JULY 20TH.

The Vaccination Bill.

When the House resumed consideration of the Vaccination Bill Sir WALTER FOSTER withdrew his proposed new clause and the debate proceeded on the following clause proposed by Mr. CHAPLIN—viz.: "No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Vaccination Act of 1867 if within four months from the birth of the child he satisfies two justices in petty sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child, and within seven days thereafter delivers to the vaccination officer for the district a certificate by such justices of such conscientious objection."

Objection was taken to the word "satisfies" and the proposal was made to substitute for it "makes a statutory declaration before," but when pressed to a division it was rejected by 158 to 101 votes and the clause as moved by Mr. Chaplin was adopted.

Dr. CLARK moved to insert a provision that the vaccination should be "with such lymph as the parents may desire." The Government refused to accept it and in the end it was negatived without a division.

On the motion of Mr. CHANNING words were inserted to provide for the postponement of vaccination in a district where there was or had been a prevalence of infectious disease.

The clause introduced in the Grand Committee on the motion of Sir William Priestley with regard to the dissemination by local authorities of vaccination literature was struck out of the Bill by 270 to 49 votes. The only other alteration of importance made was the insertion of a provision confining the operation of the Act to five years. The third reading of the Bill was postponed.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ARTHUR, H., M.D., C.M. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Airdrie District of Lanarkshire.

BAILEY, FRANCIS WILLIAM, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Anæsthetist for the Royal Infirmary, Liverpool.

BATE, G. P., M.D. Brux., F.R.C.S. Edin., M.R.C.S., of Hackney, has been appointed Medical Referee under the Workmen's Compensation Act, 1897, for the County Court District No. 40.

COLLEN, GEORGE DENBIGH, M.A., M.D., M.B., B.Ch. Dubl., has been appointed Medical Officer for the All Saints' District, Northampton Union.

CRAWFORD, J. D., L.R.C.P., F.R.C.S. Edin., M.R.C.S., of Liverpool and Freshfield, has been appointed a Medical Referee for the district including the County Court of Liverpool.

DOBBIN, F. W., M.D., B.Ch. Dubl., has been appointed Medical Officer of Health by the St. Albans Rural District Council.

DUNWOODY, W. G., M.D., B.S. Dubl., has been appointed Medical Officer for the Downham Sanitary District of Ely Union.

ELKINS, F. A., M.D., C.M. Edin., has been appointed Medical Superintendent for the Leaveaden Asylum of the Metropolitan Asylum District.

GRANT, P. N., M.B., C.M. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Sheriffdom of Stirling, Dumbarton, and Clackmannan.

HEATH, CHARLES J., F.R.C.S., has been appointed Surgeon to the Throat Hospital, Golden-square, London.

HOLLINGS, C. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Kilham Sanitary District of the Driffield Union.

HOW, A. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Cleygate Sanitary District of Kingston Union.

HUNTON, FRED., M.D., B.S. Durh., has been appointed Medical Officer of Health by the Sedgefield Rural District Council.

JORDAN, H. M., F.R.C.S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act, 1897, for the Clerkenwell County Court District No. 41.

MCALISTER, W., M.B., C.M. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Kilmarnock District of the County and also for the Sheriffdom of Ayr.

MCFADYEN, D., M.D. Glasg., has been appointed Medical Referee under the Workmen's Compensation Act, 1897, for Stirling District.

MURISON, P. R., M.B., C.M. Edin., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Sheriffdom of Forfarshire.

NICHOLSON, C. R., L.R.C.P., M.R.C.S., has been appointed Senior House Surgeon for the Hastings, St. Leonard's, and East Sussex Hospital, vice H. C. T. Langdon, resigned.

RICHARDSON, W. P., M.B., C.M. Edin., has been appointed a House Surgeon for the Hospital for Sick Children, Newcastle-on-Tyne.

ROSS, J. A., M.B., C.M. Aberd., has been appointed Medical Officer for the Workhouse of the Penistone Union.

ROUTH, A. J. M., M.D. Lond., B.S., M.R.C.P., M.R.C.S., has been appointed Obstetric Physician to the Charing-cross Hospital, vice W. Black, resigned.

SMITH, W., L.R.C.P. Lond., M.R.C.S., has been appointed a House Surgeon to the Walsall and District Hospital, vice Dr. Nixon.

SMITH, W. E., M.B., C.M. Edin., has been appointed Junior House Surgeon to the Royal London Ophthalmic Hospital, Moorfields, E.C.

STEWART, C. H., M.B., C.M. Edin., D.Sc., B.Sc., has been appointed to the Professorship of Public Health and Sanitary Science at the Edinburgh University.

STUART, J. A. ERSKINE, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health and Superintendent of Infectious Hospital for the Borough of Batley.

THOMSON, ST. CLAIR, M.D., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed a Physician to the Throat Hospital, Golden-square, London.

THORNE, MAY, L.S.A. Lond., M.D. Brux., has been appointed a Clinical Assistant for the Royal Free Hospital, Gray's-inn-road, London.

WATT, J. R., M.B., C.M. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Sheriffdom of Ayr.

WALKER, S., M.R.C.S., of Middlesborough, has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the County Court Circuit No. 15.

WHITFIELD, ARTHUR, M.D., M.R.C.P., M.R.C.S., has been appointed Physician for the Skin Department of the Great Northern Central Hospital, Holloway-road, N.

WHITTINGTON, THOMAS PRICE, L.R.C.S., I.R.C.P., L.M. Edin., has been re-appointed Medical Officer of Health for Neath, Glamorganshire.

WILSON, T., M.D., F.R.C.S., has been appointed Medical Officer for the infirmary of the parish of Birmingham.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BETHLEM ROYAL HOSPITAL, Lambeth-road, London, S.E.—Second Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments in the hospital, complete board, and washing. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

CARDIFF INFIRMARY.—Assistant House Physician and Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CHARING-CROSS HOSPITAL, London.—Assistant Anæsthetist.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. The post is tenable, subject to annual re-appointment, for three years. Honorarium 20 guineas per annum.

COUNTY ASYLUM, Dorchester.—Second Assistant Medical Officer. Salary commences at £130, rising to £160.

DERBY COUNTY HOSPITAL.—Second Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120, with board, lodging, and washing. Applications to B. S. Currey, Esq., St. Michael's Churchyard, Derby.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for twelve months. Salary £40, with board, residence, and washing.

DUNDEE ROYAL INFIRMARY.—Two Resident Medical Assistants for six months. Salary at the rate of £40 per annum, with board and washing.

HOLBORN UNION.—Resident Medical Officer for the Workhouse, Shepherdess-walk, City-road, N., unmarried or widower without children. Salary £200 per annum (to include midwifery fees if called upon to act), with furnished apartments, gas, coal, washing, and attendance, fees for vaccination and 10*s.* 6*d.* in respect of each certificate under the Lunacy Act. The appointee will be required to pay £60 per annum towards the cost of his rations. The appointment is subject to statutory deductions. Applications to the Clerk to the Guardians, Holborn Guardians' Offices, Clerkenwell-road, E.C.

HOSPITAL OF ST. FRANCIS, 145, New Kent-road, London.—Orthopædic Surgeon and Ophthalmic Surgeon.

LAMBETH INFIRMARY.—Resident Clinical Assistant and Second Assistant to the Medical Superintendent for six months. Salary at the rate of £50 per annum. Applications to the Medical Superintendent, Brook-street, Kennington-road, S.E.

LONDON SCHOOL OF MEDICINE FOR WOMEN, Handel-street, Brunswick-square, W.C.—Demonstrator in Physiology.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence in the institution.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the Park Fever Hospital, Hither Green, Lewisham, S.E., unmarried. Salary £160 first year, £180 second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing, subject to statutory deduction. Applications to the Office of the Board, Norfolk-street, Strand, W.C.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon. Salary £180 a year, increasing to £200 by £10 a year, subject to board expenses. Also Clinical Assistant for six months. Salary £60.

OWENS COLLEGE, Manchester.—An Additional Demonstrator of Anatomy for the ensuing winter session.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL SEA-BATHING HOSPITAL, Margate.—Resident Surgeon. Salary £100 per annum, with board and residence. Applications to the Secretary, R.S.B. Hospital Offices, 30, Charing-cross, London.

SALFORD SCHOOL BOARD.—Medical Officer. Salary £150 per annum. Applications to the Clerk to the Board, School Board Offices, Salford.

SALISBURY INFIRMARY.—Assistant House Surgeon for six months. Honorarium of £10 will be given conditionally. Board, lodging, and washing provided.

SCHOOL BOARD FOR LONDON. Lecturers. Application to the Clerk of the Board, Victoria-embankment, W.C.

SUSSEX COUNTY HOSPITAL, Brighton.—House Physician, unmarried. Salary commencing at £50 per annum, with board and residence in the hospital.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE, Cardiff. Assistant Lecturer and Demonstrator in Anatomy. Stipend £120 per annum. Also Temporary Assistant Lecturer and Demonstrator in Physiology for one year. Salary £120. Applications to the Registrar, University College, Cardiff.

UNIVERSITY OF ST. ANDREWS, St. Andrews.—Professors of Materia Medica and Pathology to conduct classes at Dundee.

WESTERN GENERAL DISPENSARY, Stafford-street, Marylebone-road, London.—House Surgeon, unmarried. Salary £60, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

CLARK.—On July 13th, at Wilton-place, Ilkeston, the wife of David Y. Clark, L.R.C.P., L.R.C.S. Edin., of a son.

DICKINSON.—On July 16th, at Milverton-terrace, Leamington Spa, the wife of George Dickinson, M.R.C.S., L.R.C.P. Lond., of a son.

JAMES.—On July 16th, at Barton House, Beverley, Yorkshire, the wife of Surgeon-Lieutenant-Colonel James, of a daughter.

KEOGH MURPHY.—On July 17th, at Princes-square, W., the wife of J. Keogh Murphy, M.B. Camb., L.R.C.P. Lond., M.R.C.S., of a son.

MARRIAGES.

ALEXANDER—MILLAR.—On July 19th, at the Cathedral Church of St. Mary, Edinburgh, William Gordon Alexander, M.B., C.M., Stalbridge, to Katrina Louisa Hoyer, daughter of the late Christian Heyer Millar, of Blair Castle, Culross, N.B.

APPLEYARD—HARRIES.—On June 13th, at the Court House, Umtali, Rhodesia, Francis Edward Appleyard, B.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., elder son of George Appleyard, Halifax, to Beatrice Louise, youngest daughter of Barret Harries, of Byfleet, Surrey.

RICHARDSON—TONKING.—At Camborne Parish Church, on July 16th, Adam Richardson, M.B., Mast. Surg. Edin., L.S.A. Lond., to Rhoda Maud, youngest daughter of C. H. Tonking, Esq., Roskear Villas, Camborne.

RITCHIE—SOUTTAR.—On July 12th, at Beaconsfield-place, Aberdeen, James Ritchie, M.A., M.D. Edin., Oxford, to Lily, daughter of James Souttar, F.R.I.B.A., Aberdeen.

TENCH—STANLEY.—On July 16th, at Christ Church, Lancaster-gate, Sidney E. Tench, M.R.C.S., L.R.C.P., of Brixton, to Mabel, youngest daughter of the late Charles Stanley, of Lancaster-gate, W.

DEATHS.

BOWMAN.—At Charlmont-place, Armagh, Robert Bowman, Surgeon-Colonel I.M.S.

FARR.—On July 16th, at Strathallan, Owls-road, Boscombe, Septimus Briggs Farr, M.R.C.S., L.R.C.P. Edin., L.S.A. Lond., aged 66 years.

FOX.—On July 20th, at Mount Park-road, Ealing, W., Oscar Harger Fox, M.R.C.S., in his 84th year.

*N.B.—A fee of 5*s.* is charged for the insertion of Notices of Births, Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

BRITISH MEDICAL ASSOCIATION MEETING AT EDINBURGH.

DURING the forthcoming meeting of the British Medical Association at Edinburgh the Representatives of THE LANCET can be consulted at the Imperial Hotel with regard to our report of papers and proceedings.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1898, which was completed with the issue of June 25th, and the Title-page to the Volume were given in THE LANCET of July 2nd.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
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INCARCERATION OF THE PENIS.

DR. THEODOR FLORAS, principal medical officer of the Anatolian Railway, Constantinople, reports a case of incarceration of the penis in the *Deutsche Medicinische Wochenschrift* of July 14th. The patient was a railway employé, about fifty-five years of age, who, presumably while in a state of intoxication, in presence of a companion passed his relaxed penis through the aperture of an iron screw-nut, this aperture having a width of only 1½ centimetre (0·6 in.). The matter was treated as a joke, and encouraged by his companion he forced the nut with a twisting movement until it arrived at the attachment of the ligamentum suspensorium urethræ. He was subsequently unable to remove the nut, but nevertheless went to work that same day and also the next. On the evening of this second day he consulted a surgeon who drew off his retained urine with a fine catheter, prescribed a diuretic, and directed lead lotion to be applied to the penis. It was only next morning that Dr. Floras saw him, more than thirty-six hours after the application of the nut. The man was then in a state of the greatest alarm and uneasiness, his penis hung down like an enormous tightly filled sausage, and the diffuse swelling was so great that it was difficult to find the nut among the infiltrated tissues. Amputation seemed to be unavoidable, but before resorting to it the man was taken to the engineering shop and held by two men in the upright position against a large anvil. The penis, with the square nut encircling it, was then held horizontally on the anvil, a slight cut was made in the nut by a sharp chisel struck by a hammer, and this cut was cautiously deepened until an iron wedge could be driven into it, whereupon the nut broke in two. The internal screw threads of the nut had sunk into the tissues of the urethra and had caused ulcerative and necrotic changes, but in a few days all these symptoms disappeared and the man returned to his work. Dr. Floras refers to a somewhat similar case recorded by M. Amelsen, quoted in the *Centralblatt für Chirurgie* for 1897, p. 1186.

ANTI-VIVISECTION TACTICS.

A MEDICAL man at Clifton, and perhaps many medical men in the neighbourhood, have received the following document:—

BRISTOL AND WEST OF ENGLAND ANTI-VIVISECTION SOCIETY.

20, Triangle, Bristol, July, 1898

SIR,—As we are often asked if we can give the name of a doctor who is opposed to vivisection we should be glad to keep a list of such for the convenience of inquirers.

Will you therefore kindly answer the enclosed question and return this paper to the above address?

I am, yours faithfully,
F. I. BAKER, Secretary.

QUESTION:—

Are you opposed to Vivisection?

It is to be hoped that all medical men, whether sympathising or no with the anti-vivisection movement, will leave this circular unanswered. To attempt to obtain patients from brother practitioners through the medium of Mr. F. I. Baker would be in opposition to all right ideas and the stress of competition would never excuse such behaviour.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 2nd, in the Appointments column, an error has crept in which I would like corrected, as already a good deal of misunderstanding and inconvenience has been caused me thereby. It is there stated that H. W. Cooper, M.D. Balt., U.S.A., has been appointed resident medical officer and vaccinator at the Carcoar Hospital, New South Wales. No such appointment has been made. W. H. Cooper, M.D Balt., U.S.A., succeeded me as medical officer to the Galley Mont Gold Mining Company, Galley Swamp, a position I held as visiting medical officer until it was decided to have a medical man resident on the "field," when my appointment lapsed. Hence, I presume, the error.—I am, Sirs, yours faithfully,

A. W. HAWTHORNE, M.D R.U.I.,
Resident Surgeon Carcoar District Hospital; Government Medical Officer and Vaccinator,
Carcoar District.

Carcoar, N.S. Wales, June 11th, 1898.

THE HEAT IN NEW YORK CITY.

A CORRESPONDENT writes: "New York has just experienced a heat wave of exceptional intensity. The hot weather came in with July. On the 1st of the month the thermometers in different parts of the city registered at four in the afternoon from 90° to 97° F., accompanied with much humidity. This temperature, however, was far exceeded on Sunday, July 3rd, on which date occurred the hottest day for many years—in fact, it is said that not since 1881 has the mercury risen to such a height. The peculiar feature of this excessive degree of heat was the comparative absence of humidity—only 70°—and the presence of a breeze from the south-west travelling at the rate of fourteen miles per hour. Ordinarily a breeze from this quarter tends to mitigate the most severe temperature, but on this occasion it exerted a contrary effect and served to bring upon the city such an excess of heat as will be remembered for many a long day. The current of air had many of the characteristics of a simoon and struck

one like the blast from a fiery furnace. According to the reports from the weather bureau the highest temperature of the day was 99° in the shade, but it must be understood that the office of the bureau is several hundreds of feet above the ground and many thermometers in the streets registered over 100°, while some on Broadway in the sun stood at from 105° to 115° between the hours of 12 P.M. and 4 P.M. The worst of it was there was no relief. Although indoors the air was stifling, it was even more unpleasant outside The harder the wind blew the hotter it was. The penny boats and pleasure steamers, the usual resorts of New Yorkers in the torrid season, were swept by the burning wind. It is needless to say that there were many cases of heat prostration. The condition of the poor inhabitants of the east side streets was especially pitiable. Few towns in the world possess so overcrowded a district as the section inhabited by the poor of New York. In this part of the town the slum dwellers are herded together in huge tenement buildings crowded in small box-like rooms. The streets are narrow and often paved with asphalt, which attracts and conserves the heat as no other description of pavement does, and as a result the distress and mortality reached a point seldom known. The fall in temperature was very gradual up to eight o'clock, then the earth commenced to cool, until at eleven o'clock the thermometers in the street stood at 89°."

A SHORT WAY WITH AN UNREGISTERED CLUB DOCTOR.

THE Barmen clubs having quarrelled with their medical men these have resigned and strangers have been imported into the town to take their posts—amongst them a Swiss lady, who, though an M.D. of Zürich, has not a German qualification, has been placed in charge of the female members of the clubs. This coming to the knowledge of the local authorities they immediately caused a notice to be served on the committee of the club informing it that every member would be liable to a penalty of 10s. for every day that the unqualified lady practised.

"UNFORTUNATE PUBLICITY."

To the Editors of THE LANCET.

SIRS,—As in THE LANCET of the 16th inst. you have instructed me to withdraw an advertisement which you reproduced in full you will no doubt, in fairness to me, state your grounds for so doing and print this letter in your next issue. I am entitled to assume that, as competent editors, you made yourselves acquainted with all the facts of this particular case before remarking upon it and therefore I need not at present allude to them. I shall be glad to know the precise grounds upon which you object to this advertisement and as I like, when possible, to understand the reasons for adopting any line of conduct I should be obliged if you would kindly enter into some detail and point out what evils you fear and in what manner you expect them to arise. I should also be glad to learn whence you derive the authority to address me in such dictatorial terms. I am, Sirs, your obedient servant,

Southampton, July 19th, 1898. JOHN BULLAR.

*** We have not instructed Dr. Bullar to do anything. We have recommended him to withdraw his advertisement which, by the way, was not reproduced in full. The objections to such advertisements are patent; they advertise the writer of the book in his medical character to a lay public. We fail to see in what way our recommendation was a dictatorial one and at the risk of further offending Dr. Bullar we beg to repeat it.—ED. L.

THE LATE MR. ARTHUR JEFFARES BARLOW: AN APPEAL.

IT will be remembered that an appeal was made in THE LANCET of May 14th on behalf of the widow of the late Mr. Arthur Jeffares Barlow. As the sum received is up to now only small we again give the names and addresses of those to whom subscriptions may be sent:—Dr. J. W. Moore, 40, Fitzwilliam-square West, Dublin; Dr. John Barton, 26, Upper Merrion-street, Dublin; Dr. C. J. Clibborn, 78, Owen-terrace, University-street, Belfast; Dr. L. H. Ormsby, 92, Merrion-square West, Dublin; Dr. Henry, 2, Lewisham-park, Lewisham, London, S.E.; and Dr. A. Matson, 619, Holloway-road, London, N., who desires to acknowledge a subscription of £2 2s. from Sir Edwin Saunders.

MR. MOULD FAILS TO FIND MR. JOBLING.

To the Editors of THE LANCET.

SIRS,—I was interviewed to-day by a man who told me he had just come to the neighbourhood to begin business and was desirous of obtaining my patronage. I asked him what business he was in and he replied that he was an undertaker. I rose to show him out when he remarked, "Of course, doctor, *as is usual*, I am prepared to offer you a commission." He left immediately. Is the game really played as low down as this? I am, Sirs, yours faithfully,

July 18th, 1898. F. C.

A Twenty-five Years' Subscriber will find several articles on the appointment of medical referees in the columns of THE LANCET during the past six months. The appointments are in the hands of the Home Secretary and application for them should be addressed to that Minister and sent under cover to the "Private Secretary to the Secretary of State, Home Office" (see THE LANCET, April 23rd, 1898, p. 1137). As was stated last week, the list of medical referees for certain county court circuits is now complete (see THE LANCET, July 16th, 1898, p. 168)

Assistant.—We know no other method of hearing of such posts save advertisement. Applications for colonial service should be made to the Colonial Office, Downing-street, S.W.

Pes.—The "Toe-Post" Shoes are made by Messrs. Holden Bros., 223½, Regent-street, W. Any surgical bootmaker will make sandals to order.

F.R.C.S. (Southsea).—The Jacksonian Prize on Tetanus has not been published. The essay is in the Royal College of Surgeons of England.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat Hospital (2 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West. London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

SATURDAY (30th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.), London Throat Hospital (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 21st, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
July 15	30·11	W.	...	122	85	56	60	65	Hazy
" 16	30·10	N.W.	...	124	85	63	64	68	Hazy
" 17	30·16	N.W.	...	106	78	62	62	70	Cloudy
" 18	29·99	WNW	0·08	124	83	59	60	64	Cloudy
" 19	29·90	N.	...	100	71	62	60	62	Cloudy
" 20	30·07	E.	...	97	67	56	53	58	Cloudy
" 21	30·16	S.	...	112	69	52	52	55	Hazy

During the week marked copies of the following newspapers have been received: *Sunderland Daily Echo, Crowle Advertiser, Norwich Advertiser, Glasgow Herald, Ayrshire Post, Lancashire Express, Sheffield Telegraph, Birmingham Daily Post, Times of India, Pioneer Mail, Newbury Weekly News, Perth Constitutional, Bournemouth Observer, Boston Independent, Architect, Rugby Advertiser, Scotsman, Citizen, Builder, Bedford Standard, Liverpool Daily Post, Dundee Advertiser, Bristol Mercury, Manchester Courier, Walsall Advertiser, North Eastern Daily Gazette, Baillie Glasgow, Eastern Morning News, Cheshire Observer, Buxton Advertiser, Whitby Gazette, Leicester Post, South Wales Daily News, Wigan Examiner, Brighton Gazette, Cheltenham Free Press, Yorkshire Post, Framlingham Weekly News, Sussex Daily News, Dufield Observer, Western Morning News, Leeds Mercury, Newcastle Leader, Bridgwater Mercury, Derby Gazette, Dumfries Courier, Temperance Chronicle, Financial News, Sanitary Record, Mining Journal, City Press, Cork Examiner, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, Surrey Advertiser, Keene's Bath Journal, Kerry Weekly Reporter, The Clarion, Weekly Free Press and Aberdeen Herald, Bournemouth Guardian, East Anglian Daily Times, Daily Mail (Hull), Irish Times, Coventry Standard, Dentist, Daily Nation, Banffshire Herald, West Middlesex Herald, Local Government Journal, &c., &c.**

Communications, Letters, &c., have been received from—

A.—Mr. F. Ash, Birmingham Messrs. Allen and Hanburys, Lond.; Messrs. Arnold and Sons, Lond.; A. K.; Ancoats Hospital, Manchester, Secretary of; Art Memorial Co., Lond.

B.—Dr. D. Bower, Bedford; Messrs. Barber and Co., Derby; Bristol Corporation, Health Department; Mr. Blackett, Lond.; Dr. F. T. Bond, Gloucester; Messrs. Burroughs, Wellcome, and Co., Lond.; Herr Burckhardt, Berlin; Banks Beer Co., Lond.; T. B. Browne, Ltd., Lond.; B. J. L., Claycross; Mr. H. E. Bridgman, Burton-on-Trent; Mr. H. H. Beale, Reading; Messrs. Brown Bros., and Co., Glasgow; Dr. J. B. Brierley, Manchester.

C.—Dr. G. F. Crooke, Birmingham; Mr. R. H. Capper, Battle; Cortland Wagon Co., Lond.; Church of England Sanitary Association, Lond., Hon. Secretary of; Messrs. Crossley, Moir, and Co., Lond.; Cox Type Setting Machine Co., Lond.; *Canada Lancet*, Toronto, Acting Editor of; Mr. W. F. Clay, Edinburgh; Charing Cross Hospital, Lond., Secretary of; *Chemist and Druggist*, Lond., Manager of.

D.—Messrs. Davies, Gibbins, and Co., Derby; Dundee Royal Infirmary, Medical Superintendent of; Messrs. Deighton, Bell, and Co., Cambridge; Derbyshire Royal Infirmary, Derby, Secretary of; Dorchester Asylum, Medical Superintendent of; *Daily Mail*, Lond., Editor of; Messrs. Damancy and Co., Lond.; F. A. Davis Co., Philadelphia.

E.—Mr. J. H. Evans, Liverpool; Herr Max Eisenberger, Nürnberg; Miss K. Easter, Lond.; European Express Trains Co., Lond., Managers of; Surgeon-Colonel Evatt, Hong-Kong; Misses Estcourt and Spooner, Lond.

F.—Mr. G. C. S. Fulton, Eston; Flower House, Catford, Secretary of.

G.—Mr. M. Gutteridge, Gravesend; Glasgow University, Clerk of; Messrs. Garnett and Co., Rotherham.

H.—Mr. H. Hurter, Liverpool; H., Bristol; Mr. W. S. Handley, Lond.; Hampstead Heath Extension Scheme, Secretary of; Lieutenant-Colonel H. W. L. Hime, Lond.; Mr. J. Heywood, Manchester.

I.—Imperial Accident Insurance Co., Lond.

J.—Mr. W. James, Lincoln; J. L., Hull; Dr. H. Macnaughton Jones, Lond.; Dr. W. Black Jones, Llangammarch Wells.

K.—Dr. G. E. Keith, Lond.; Miss Annesley Kenealy, St. Andrews; Mr. B. Kershaw, Lond.

L.—Dr. E. E. Laslett, Liverpool; Mons. H. Le Soudier, Paris; Mr. H. K. Lewis, Lond.

M.—Dr. W. C. Mortimer, Tadley; Messrs. C. Mitchell and Co., Lond.; Dr. W. J. McCardle, Birmingham.

N.—Mr. J. B. Neal, Lond.

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